



United Nations Development Programme
Project Document for projects financed by the various GEF Trust Funds



PROJECT TITLE: CONSERVATION AND SUSTAINABLE MANAGEMENT OF LAND RESOURCES AND HIGH NATURE VALUE ECOSYSTEMS IN THE ARAL SEA BASIN FOR MULTIPLE BENEFITS		
Country: Turkmenistan	Implementing Partner (GEF Executing Entity): Ministry of Agriculture and Environment Protection	Execution Modality: Assisted NIM
Contributing Outcome (UNDAF): "By 2025, there is effective design and implementation of disaster risk reduction and climate adaptation and mitigation measures, enabling a more rational use of resources, increased resilience and a green economy transition"		
UNDP Social and Environmental Screening Category: Moderate	UNDP Gender Marker: 2	
Atlas Award ID: 00128715	Atlas Project/Output ID: 00122633	
UNDP-GEF PIMS ID number: 6463	GEF Project ID number: 10352	
LPAC meeting date: December 17, 2021		
Latest possible date to submit to GEF: <i>June 19, 2021</i>		
Latest possible CEO endorsement date: <i>December 19, 2021</i>		
Project duration in months: <i>60 months</i>		
Planned start date: <i>March 1, 2022</i>	Planned end date: <i>February 28, 2027</i>	
Expected date of Mid-Term Review: <i>September 30, 2024</i>	Expected date of Terminal evaluation: <i>November 30, 2026</i>	
Brief project description: The objective of the project is to promote land degradation neutrality, restore and improve the use of land and water resources in Turkmenistan's Amudarya watershed to enhance the sustainability and resilience of livelihoods and globally significant ecosystems. This will be achieved through a multifocal strategy, that includes three interrelated outcomes that will support the government's efforts to prioritize policies and technical capacities to address desertification and biodiversity loss and deliver multiple Global Environmental Benefits (GEBs). The GEF investment will promote non-depleting farming and at the same time effective conservation of critical ecosystem services, through a <i>no-net-loss</i> approach to the land-based natural capital, within the context of supporting sustainable livelihoods for local resource users. The expected results are: Stabilized ecosystem services on 746,000 ha of production landscape. Non-depleted soil productivity and effective water use management on 100,000 ha of irrigated arable land. Crops resilience to salinization on 10,000 ha. Restored degraded arable and forest land on 60,000 ha. Strengthened effectiveness of the PAs and secured biodiversity status on 1,077,554 ha of PAs in the Amudarya landscape, including new		

areas of approximately 60,000 ha of endangered KBAs/IBAs proposed to be designated as Sanctuaries. Increased protection of KBAs/IBAs will translate into stable population of rare bird species, such as the Saker falcon (*Falco cherrug*), Egyptian vulture (*Neophron percnopterus*), Great grebe (*Podiceps cristatus*), Dalmatian Pelican (*Pelecanus crispus*), Great White Pelican (*Pelecanus onocrotalus*), Great Cormorant (*Phalacrocorax carbo*), Grey heron (*Ardea cinerea*), Purple heron (*Ardea purpurea*). The project will span over 5 years mobilizing a total of \$4,583,196 GEF investment.

FINANCING PLAN

GEF Trust Fund	USD 4,583,196
UNDP TRAC resources	USD 75,000
Confirmed cash co-financing to be administered by UNDP	USD 75,000
(1) Total budget administered by UNDP	USD 4,658,196
(2) Total further confirmed co-financing¹	USD 57,453,000
(3) Grand total project financing (1)+(2)	USD 62,111,196

SIGNATURES

 Signature: Mr. Allanur Altmyev	Agreed by Ministry of Agriculture and Environment Protection of Turkmenistan	Date/Month/Year: 03.03.22
 Signature: Ms. Narine Sahakyan	Agreed by UNDP	Date/Month/Year: 03.03.22

This co-financing does not incur financial obligations towards Project budget.

Table of Contents

I.	Development Challenge	4
	1.1 Overall development context and challenge (socio-economic, sustainable development)	4
	1.2 Environmental context	6
	1.3 Environmental threats and their immediate and root causes	6
II.	Strategy	9
	2.1 The long-term solution	9
	2.2 Key past and ongoing interventions	9
	2.3 The projected baseline scenario	10
	2.4 Barriers and theory of change	10
III.	Results and Partnerships	15
	3.1 Project description and expected results	15
	3.2 Project area and sites	47
	3.3 Alignment with GEF focal area strategy	47
	3.4 Incremental Cost Analysis (Baseline vs Alternative Scenario) and Global Environmental Benefits	47
	3.5 Local and national project beneficiaries and benefits	51
	3.6 Consistency with national convention strategies/plans/reports/assessments and priorities	51
	3.7 Relevance to SDGs	53
	3.8 Stakeholder engagement, partnerships and coordination	53
	3.9 Gender equality and women’s empowerment	55
	3.10 Risks to project success and social/environmental safeguards	55
	3.11 Innovativeness, sustainability and potential for scaling up	56
	3.12 Knowledge management	58
	3.13 South-south and triangular cooperation	59
IV.	Project Results Framework	60
V.	Monitoring and Evaluation (M&E) Plan	76
VI.	Governance and Management Arrangements	79
VII.	Financial Planning and Management	83
IX.	Risk Management	90
X.	Annexes	93
	Annex 1: <i>GEF Budget Template</i>	93
	Annex 2: <i>GEF Execution Support Letter</i>	99
	Annex 3: <i>Project map and geospatial coordinates</i>	101
	Annex 4: <i>Multi-Year Work Plan</i>	103
	Annex 5: <i>UNDP Social and Environmental Screening Procedure (SESP)</i>	106
	Annex 6: <i>Targeted Landscape Profile</i>	140
	Annex 7: <i>UNDP Risk Register</i>	158
	Annex 8: <i>Monitoring Plan</i>	177
	Annex 9: <i>GEF Core Indicators at Baseline</i>	211
	Annex 10: <i>GEF PA Management Effectiveness Tacking Tool / METT (please see as a separate Attachment)</i>	218
	Annex 11: <i>A Brief Overview of the challenges of LDN Financing</i>	219
	Annex 12: <i>Minute of the Meeting with the Ministry of Agriculture and Environmental Protection officials</i>	230
	Annex 13: <i>GEF 7 Taxonomy</i>	237

<i>Annex 14: Overview of Technical Consultancies and Roles and responsibilities of project staff</i>	242
<i>Annex 15: Initial Project Procurement Plan</i>	263
<i>Annex 16: Stakeholder Engagement Plan</i>	264
<i>Annex 17: Stakeholders consulted during project development</i>	289
<i>Annex 18: Gender Analysis and Gender Action Plan</i>	296
<i>Annex 19: Knowledge Management Plan</i>	332
<i>Annex 20: Response to Comments from GEF Council and STAP</i>	382
<i>Annex 21: Letter of Agreement with the Government (LOA) for the Provision of UNDP Support Services</i>	401
<i>Annex 22: Co-financing letters (please see separate attachment)</i>	405
<i>Annex 23: Legislative and Institutional Context</i>	406
<i>Annex 24: List of Baseline Programmes and Projects</i>	414
<i>Annex 25: Note on the dissolution of daikhan associations (DAs)</i>	417
<i>Annex 26: LDN Check List</i>	418
<i>Annex 27: Land use planning scheme in Turkmenistan</i>	419
<i>Annex 28: UNCCD support letter -LDN National Target Setting</i>	420
<i>Annex 29: PCAT and HACT (please see separate file)</i>	422
<i>Annex 30: Environmental and Social Management Framework (ESMF)</i>	423

Acronyms

ABSP	Aral Sea Basin Programme
AF	Adaptation Fund
BISAs	Basin Irrigation Systems Authorities
BWO	Basin Water Organization
CAREC	Central Asia Regional Economic Cooperation Programme
CBD	Convention on Biological Diversity
CMS	Convention on the Conservation of Migratory Species (Bonn Convention)
CPD	Country Programme Document (UNDP)
EO	Earth Observation
EIA	Environmental Impact Assessment
ESMF	Environmental and Social Management Framework
FAO	Food and Agriculture Organization (of the United Nations)
FSP	Full Size Project
GDP	Gross Domestic Product
GEB	Global Environmental Benefits
GEF	Global Environmental Facility
GEF SEC	Global Environment Facility Secretariat
GII	Gender Inequality Index
GIS	Geographical Information System
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GPS	Global Positioning System
HDI	Human Development Index
IBAs	Important Bird and Biodiversity Areas
ICSD	Interstate Commission for Sustainable Development
ICWC	Interstate Commission for Water Coordination
IFAS	International Fund for Saving the Aral Sea
ILUP	Integrated Land Use Plan
IWRM	Integrated Water resources Management
IRR	Internal Return Rate
KBAs	Key Biodiversity Areas
LCC	Land Cover Change
LCML	Land Cover Meta Language
LDN	Land Degradation Neutrality
MAEP	Ministry of Agriculture and Environment Protection
METT	Management Effectiveness Tracking Tool (METT/GEF)
M&E	Monitoring and Evaluation
NDVI	Normalized Difference Vegetation Index
NIDFF	National Institute of Deserts, Flora and Fauna
NPP	Net Primary Productivity
PAs	Protected Areas
PIF	Project Identification Form
PIR	GEF Project Implementation Report
POPP	Programme and Operations Policies and Procedures
PPG	Project Preparation Grant
REP4SD	Regional Environment Programme for Sustainable Development tin Central Asia
RTA	Regional Technical Advisor
SEEA	System of Environmental-Economic Accounting
SES	Social and Environmental Safeguards
SESA	Strategic Environmental and Social Assessment
SESP	Social and Environmental Screening Procedure (UNDP)
SIC	Scientific Information Centre

SLM	Sustainable Land Management
SOC	Soil Organic Carbon
SRM	Stakeholder Response Mechanism
STAP	GEF Scientific Technical Advisory Panel
SLM	Sustainable Land Management
UIET	Union of Industrialists and Entrepreneurs of Turkmenistan
UNDP	United Nations Development Programme
UNDP-GEF	UNDP Global Environmental Finance Unit
UNCCD	UN Convention to Combat Desertification
UNFCCC	UN Framework Convention on Climate Change
UNECE	United Nations Economic Commission for Europe
UN SPAS	United Nations Special Programme for the Aral Sea Basin
UNRCCA	United Nations Regional Centre for Preventive Diplomacy in Central Asia
WB	World Bank
WUGs	Water Users Groups

I. DEVELOPMENT CHALLENGE

1.1 Overall development context and challenge (socio-economic, sustainable development)

1. Most of the territory of Turkmenistan, the second largest country of Central Asia stretching over 491,210 km², is covered by Karakum desert. With an average of 10 inhabitants per km², and a population of 5.85 million, Turkmenistan is one of the least populated countries in the world where just under half of the population is concentrated in the capital Ashgabat and other large urban centres such as Turkmenabat, Dashoguz, Mary and Balkanabat. The official language is Turkmen although Russian is still widely spoken and used especially in cities, as “lingua franca”. The country’s administrative territory is divided into five provinces (velayats) : Akhal, Balkan, Mary, Lebap and Dashoguz. Classified as an upper middle-income country, three major components are distinguishable in the structure of the country’s GDP: industrial production (including oil and gas industries); service sector including trade; and agriculture. Oil and gas account for 90% per cent of total exports and 21% GDP in 2019¹. The share of agriculture is just over 10%. The GDP growth has been quite high, driven by government consumption, investment and external sector. Nevertheless, the high pace of economic growth is vulnerable to shocks such as price volatility for raw materials and slowdowns of global growth. The pandemic has determined a sharp decrease of GDP growth from 6.3% in 2019 to 1.8 % in 2020 according to the International Monetary Fund (IMF). Furthermore, climate change and water scarcity in this arid climate poses serious risks to economic activities, public health and environmental stability. Turkmenistan is heavily impacted by climate change, the impact of which include: (i) steady increase in average temperature of 1.4°C; increasing occurrences of daily temperatures of over 40°C² occasionally surpassing 50°C in Karakum desert and Repetek and accentuation of differences between hottest and coldest temperatures³ (ii) variability in monthly precipitation has been growing and the amount of precipitation during recent years has slightly increased, particularly in spring months, with the lowest precipitation values being observed in summer (iii) an increase in the average regional evaporation rates of 48% by 2050 (iv) an increase in the frequency and intensity of drought and flood spells; (v) 10-15% reduction in flow rates for the Amu Darya river⁴; and a 30% reduction in other rivers and tributaries’ discharge. Drought represents the biggest threat increasing the pace of desertification. During dry years, the pasture productivity and harvests are reduced by 50-70 % , significantly affecting food security⁵.

2. The total unemployment rate is estimated at 3.9% (according to Asian Development Bank estimates of 2019). The agriculture sector which employs approximately 50% of the estimated 2.3 million workers, is dominated by the cultivation

¹https://databank.worldbank.org/views/reports/reportwidget.aspx?Report_Name=CountryProfile&Id=b450fd57&tbar=y&dd=y&inf=n&zm=n&country=TKM

² Estimates based on the findings of five general atmosphere and ocean circulation models (GCM) reported in Turkmenistan’s Initial Communication on Climate Change (1998). The GCM with the most plausible results on temperature predictions was the UK89 model (equilibrium model of the United Kingdom Meteorological Agency). According to this scenario, temperature is predicted to increase by 5.5°C by 2050.

³ Turkmenistan Climate Adaptation Profile, Climate Change Knowledge Portal. http://sdwebx.worldbank.org/climateportalb/home.cfm?page=country_profile&CCode=TKM.

⁴ Second National Communication of Turkmenistan to the UNFCCC (2010)

⁵ Third National Communication to UNFCCC (2015)

of cotton and wheat which remain under state control. Efforts exist to diversify the agricultural output in a quest for self-sufficiency, with many private farmers cultivating watermelons, tomatoes, grapes and onions. Due to poor soil quality and arid conditions (with precipitations occurring during October-April and sometimes lacking altogether during summer months), agriculture depends entirely on irrigation. The Government priority is to ensure food self-sufficiency by focusing on wheat and rice as the main traditional crops. These crops are closely correlated to large-scale irrigation schemes, most in poor condition, leading to water wastage and waterlogging, exacerbating the land degradation, and increasing soil salinity. The Statistical Yearbook of Turkmenistan estimates the total farmed area at 1,481,600 ha, of which 796,000 ha cereals and legumes, 84,000 ha potatoes, vegetables, and melons and 36,800 ha fodder crops⁶. The National Development Plan 2018-2024 is prioritizing, inter-alia, the small and medium enterprises development, creating conditions for the emergence of private farmers as primary guarantors of food security. The Programme for Socio-Economic Development of the Country 2019-2025 calls for the reorganization of the industrial and service sectors towards the production of goods with high value added, reduction of state-ownership and increase of further privatisation. A State Programme on support of small and medium entrepreneurship 2018-2024 has been approved. However, the reform plans lack implementation capacities and severe obstacles to the development of private businesses remain. The financial sector remain largely in public sector control.

3. Political transformation has also been incremental with slow reform to promote good governance and institute basic structures of democracy. Decision making is still highly centralised and the role of state is strong and pervasive throughout society. A scarcity of foreign exchange and the difficult business climate make the economic environment very challenging. In the agriculture sector, the small and medium size farmers have less opportunities to access affordable financing for the implementation of agriculture measures and access to water saving technologies. Land tenure insecurity and the current conditions in agriculture sector that favour “temporary farming” are not conducive to sustainable land management. Projects from most of the domestic private businesses (in agriculture sector included) need to be approved by the Union of Industrialists and Entrepreneurs (UIET) and signed by its chairman in order to receive state support for access to land, infrastructure, preferential loans and foreign exchange (EBRD). The UIET is strongly aligned with the state programmes and it does support the private sector development to some extent, mostly large businesses.⁷

4. Turkmenistan’s Human Development Index (HDI) for 2018 is 0.710, however when the value is discounted for inequality the HDI falls to 0.579, a loss of 18.5% due to inequality in the distribution of the HDI dimension indices. Turkmenistan’s approach to maintaining the living standards of its rapidly growing population has been to minimize the negative social impact of transition using fossil fuel export revenues to support this system. Despite relatively low cash incomes, basic human needs have been met through an extensive system of subsidies and allowances. Water, gas, fuel, and flour, as well as basic social services, are close to free. As a consequence, official data points to only a rather small proportion of the population (7%) that is living below an absolute policy line of \$ 2.15 PPP per day. However, there are many people living only just above this level, and 58% of the population in 1998 had cash incomes below the minimum wage. The level of inequality is also high. The only comprehensive survey for the country, conducted in 1998, showed that about 10% of the population accounted for about 44% of total consumption, while the other 90% of the population accounted for the remaining 56% of total consumption. The bottom 20% (quintile) of the population accounted for only 6% of the total national consumption.

5. COVID-19 pandemic has far reaching socio-economic indicators and the supply shocks coming from disruption of global value chains, border closures, lockdown of cities and workplaces, reduced spending on tourism, transport and trade, and oil price shocks are generally quite impactful on countries exporting hydrocarbons. In Turkmenistan’s case, the effects are shown by a reduction in GDP growth rates and a possible shrinking of fiscal space and investments due to the reduction in export and tax revenues. On the other hand, according to 2018 data Turkmenistan has foreign exchange reserves worth \$19.7 billion (equivalent to 44 months of export) which may be sufficient to mitigate the economic shocks. Disruption of trade due to pandemic is already affecting an increase of prices for imported products, including food products (such as sugar, flour and refined oil) which will affect most of the households and especially the lowest and small and medium enterprises (SMEs) which do not have financial buffers to overcome economic shocks. In order to maintain food security, the Government of Turkmenistan has expanded the share of arable land for cultivation of fruit and vegetables. A Government commission has been established to control process for basic food products and ensure that their centralized import and supply on the market is not interrupted⁸.

⁶ Statistical Yearbook of Turkmenistan , 2018

⁷ EBRD-Country Diagnosis 2019

⁸<https://unsdg.un.org/resources/immediate-socio-economic-response-plan-acute-infectious-disease-pandemic-turkmenistan>

1.2 Environmental context

6. Turkmenistan has a continental, moderate type desert climate and a poorly developed river network. The dominant soil type is desert sandy soil (38.7% of the territory) and sierozem, grey desert soil (25.5%). Pure sands (travelling crescent-shape sand dunes called barks) cover 9.1 % and are heavily subjected to deflation. Takyr and takyr-like soils cover 10% whereas saline soils (solontchaks) occur in 5.5% of the territory. The largest part of the country is occupied by a desert plain and the arable land constitutes only 4% of the total land area. The Karakum Desert occupies about 80% of the territory of Turkmenistan. The main source of water for all agricultural and non-agricultural uses in Turkmenistan is the Amudarya River which makes up 88% of all surface water resources in Turkmenistan. The common vegetation consists of shrubs and salt tolerant species. Major wildlife species in the plains are Saiga (*Saiga tatarica*), Göttered gazelle (*Gazella subgutturosa*), Kulan (Asiatic wild ass *Equus hemionus kulan*) and dry country birds such as Bustards and Sand goose. The mountains in the south of the country along the borders with Iran and Afghanistan still host small population of urial (*Ovis vignei*)⁹, markhor (*Capra falconeri heptneri*) and Persian leopard (*Panthera pardus saxicolor*). The mountains ecosystems have a rich biodiversity with the highest percentage of endemism in Central Asia.

7. Agriculture is the main water user in Turkmenistan, consuming 95% of the available resources. The emphasis on cotton production started during the Soviet Union period (1924-1990) and the quest for food self-sufficiency aggressively implemented since 1992 increased the irrigation system by nearly 4 times in the last 40 years, reaching 2.3 million hectares. The mountain ecosystems and the tugai forests are the most biodiversity rich natural ecosystems of Turkmenistan. Nowadays tugai forest ecosystems cover approximately 38,800 hectares, including the territory in the Amu Darya Reserve of approximately 5,000 hectares (Gladyshev 1992). The tugai flora of the floodplain of the Amu Darya River has about 100 species belonging to 69 genera and 33 families. Turkmenistan possesses a significant level of endemic biodiversity and it is one of the global centres of genetic diversity. Overall, the country has 3,140 vascular plant species and 3,924 non-vascular plant species and about 13,000 animal species, including 683 vertebrates (two-thirds of which are concentrated in the mountains and foothills). Regarding agricultural ecosystems, 172 species of wild relatives of vegetative cultures is found in the country, including 40 breeds of fruit crops and leguminous plants¹⁰.

8. Legislative and Institutional context (please see Annex 23) : In 1996 Turkmenistan has ratified the UNESCO Convention on the Protection of the World Cultural and Natural Heritage; it joined the Convention on Biological Diversity (CBD) and the Convention on Combating Desertification (CCD) in 1996, Ramsar Convention in 2008. Among recent noteworthy progress is the accession to the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes in August 2012, which has been important for ongoing regional efforts to restore the Aral Sea Basin and most recently the ratification of the Convention on the Conservation of Migratory Species (CMS) in August 2020. According to UNECE First Environmental Performance Review, the legal norms on environmental protection are contained in the Constitution, the 1991 Law on Nature Protection, and laws on air protection, ecological expertise, biodiversity conservation and land water, forest and mineral resources. Legislation on the use and protection of certain components of the environment is codified: Land, Water and Forest are in force. Some of the most important environmental or environment related laws were adopted before 2000 and are therefore in need of update and modernization. These legal acts lack sections on terminology and principles of State policy in the relevant area and do not provide clear allocation and separation of the powers of central executive bodies. Often, there is no secondary legislation that renders the law operational¹¹.

1.3 Environmental threats and their immediate and root causes

9. According to the 2012 UNECE Environmental Performance review for Turkmenistan the salinization of irrigated lands, desertification and biodiversity loss remain the most pressing environmental challenges for Turkmenistan, despite some policy progress in the prior decade.

Soil Degradation from Salinization, Waterlogging, Overgrazing and Desertification

10. The major types of land degradation in Turkmenistan are secondary salinization in irrigated lands, soil erosion in the rainfed areas, and loss of vegetation, desertification, or detrimental change in the vegetation composition in the rangelands. The major proximate causes include unsustainable agricultural practices, the expansion of crop production to fragile and

⁹ There are three subspecies recorded in Turkmenistan: *Ovis vignei cycloceros* (Turkmen); *Ovis vignei boharensis* (Bukhara); *Ovis vignei arcal* (Ustyurt)

¹⁰ <https://www.cbd.int/countries/profile/?country=tm#:~:text=Biodiversity%20Facts&text=Turkmenistan%20is%20occupied%20by%20deserts,global%20centers%20of%20genetic%20diversity>.

¹¹ UNECE First Environmental Performance Review

marginal areas, inadequate maintenance of irrigation and drainage networks, and overgrazing near settlements. Water management is one of the key issues for Turkmenistan. More than 90% of its water resources go to irrigation. At present, in Turkmenistan the total land used for agricultural purposes is 40 million ha, of which land fit for irrigated agriculture is 7 million ha, out of which approximately 2 million ha is currently irrigated. An estimated 28% of the irrigated land is under low salinization, 57% is under moderate salinization and 11% of the irrigated area is highly salinized land. Water wastage from inadequate irrigation and poor infrastructure is significant and leads to waterlogging which further increases salinization. Soil leaching uses large amounts of water, which, after evaporation further contributes to an increase of soil salinity. In addition, many times drainage water used for irrigation contains not only a high salt content but also poisonous chemicals, defoliant, chemical fertilizers, and heavy metals, thus exacerbating salinization and contaminating underground aquifers. Waterlogging and salinization has resulted in a decline in crop yield in Turkmenistan of some 25% from 2002-2012. It has been estimated that the cost of land degradation in Turkmenistan in 2009 was 870 million US dollars, equivalent to \$1,083 US dollars per capita and 4% of GDP (Mirzabaev et al, 2015)¹². The Economic of Land Degradation (ELD) Initiative in Turkmenistan highlighted that more than half of the desert pastures of the country are affected by land degradation, the land value under the current land governance is estimated at US\$ 35 per hectare and on-going losses of pasture productivity estimated at US\$ 0.6 million annually¹³. Water losses are estimated at an average of more than 40% due to the irrigation infrastructure and inadequate irrigation methods, with losses occurring especially at farm level. In the targeted four districts (etrap) of Lebap and Dashoguz velayats, data from 2010 show that the amount of water losses are ranging from 30-58%. In Turkmenistan the irrigation systems is constructed in earthen beds which leads to high seepage losses from irrigation canals and to the rise of groundwater table.

11. Soil degradation and desertification is observed in desert rangelands, about 50% of pastures are degraded including 4.5% heavily degraded. Desert vegetation of Turkmenistan consist mostly of small semi-shrub and shrub psammophyte communities with a relatively homogenous species composition, with the dominant species providing most of the productivity.¹⁴ The rate of degradation is caused by the overgrazing around wells and settlements and other anthropogenic impacts (cutting down of saxaul and other tree-shrub plants). Climate change and changing of precipitation patterns¹⁵, water scarcity and poor pasture watering infrastructure accentuates the desertification process, the productivity of pastures and grazing sites being severely affected. During dry years, a reduction of the volume of forage by 3-5 times is observed. Throughout Central Asia the projected climate change indicate increases in average annual temperature of about 1.4 degrees, projected changes (variability) in precipitation patterns and increased incidence of drought and longer dry spells¹⁶.

Habitat Destruction from Agricultural Encroachment and Illegal Taking in Critical Ecosystems

12. Turkmenistan's biodiversity is mainly threatened by loss and degradation of habitat through encroachment from the direct conversion of natural ecosystems, and overgrazing by domestic livestock. The Protected Areas system consists of nine State Nature Reserves (zapovedniks, IUCN PA Category 1a) some of which are surrounded by State Sanctuaries (zakazniks, IUCN PA Category IV) as part of the same management unit. There are 16 State Sanctuaries. There are also 17 officially designated natural monuments (IUCN category III) but there are no independent sanctuaries, or protected landscapes, no national parks (IUCN PA category II) and no sustainable use zones (IUCN PA Category VI). PAs currently cover only 4,38% of the country's territory, of which 1,6% is covered by the core State Nature reserves. These nine State Nature Reserves with their sanctuaries form the backbone of Turkmenistan's PA system, however the lack of zoning and weak PA management capacities are making it difficult to counter the threats to key habitats and species

13. The previously dense wildlife population was drastically reduced during the chaotic times after the 1990s collapse of the Soviet Union due to massive poaching. The formerly estimated population of 300,000 goitered gazelles for example was reduced to approximately 5,000 and kulan declined from more than 5,000 individuals to less than 100¹⁷. The 2011 edit of the Red Book contains, inter alia, 40 species of birds and 29 mammals (Kulan, Bukhara deer, Goitered gazelle, Urial sheep amongst them) and tiger, brown bear and lynx are deemed extinct. None of the major mammals group has seen a healthy recovery in the past 15 years, as the existing conservation and anti-poaching workforce is not capacitated to provide sufficient protection. Habitat loss and degradation due to anthropogenic pressure including transfer of salt from the dried

¹² http://www.cawater-info.net/bk/water_land_resources_use/english/english_ver/pdf/turkiadc.pdf

¹³ http://www.eld-initiative.org/fileadmin/pdf/Country_Policy_Brief_-_Turkmenistan_WEB.pdf

¹⁴ "Biogeography and Ecology of Turkmenistan" K. Atamuradov

¹⁵ https://www4.unfccc.int/sites/submissions/INDC/Published%20Documents/Turkmenistan/1/INDC_Turkmenistan.pdf

¹⁶ https://www.climatelinks.org/sites/default/files/asset/document/2018-April-30_USAID_CadmusCISF_Climate-Risk-Profile-Central-Asia.pdf

¹⁷ Resource: Rapid assessments of wildlife in Turkmenistan 2018. NINA report. 2018

Aral Sea bed (annually up to 200 kg salt/ha), livestock overgrazing in areas bordering the reserves (due to the absence of buffer zones), deforestation and poaching are ever present threats to biodiversity.

14. In 2009, 50 IBAs have been identified, covering an area of 3,467,753 ha (approximately 7%) of the country's territory however only 16 of them (32%) are totally or partially under some form of legal protection. The rest of IBAs/KBAs are under a constant threat mainly from agriculture, especially unauthorized livestock farming and overgrazing, illegal hunting, and plant collection as well as infrastructure development. Unregulated construction of roads threatens especially fragile desert ecosystems. The vegetation of the sand deserts of Turkmenistan is the most vulnerable to these anthropogenic influences, but riparian ecosystems have greatly suffered as well. Tugai areas still host a rich biodiversity and are the main ecosystems preferred by the Bukhara/Tugai deer *Cervus elaphus* (approximately 120 individuals left in Amudarya State Nature Reserve). In Amudarya State Nature Reserve the tugai ecosystems are distributed in patches isolated from each other with some areas occurring outside of the current reserve border. In the absence of a buffer zone, the preservation of these ecosystems as well as of the wild ungulates who venture often outside of the reserve border becomes very difficult.

15. Saxaul and other trees and shrubs are cut extensively for fuel wood. Areas occupied by the communities of saxaul (*Haloxylon aphyllum*, *H. persicum*) and psammophyte shrubs have been reduced by more than two thirds of their original area, leaving the topsoil prone to erosion. Many natural forests (e.g., saxaul, tugai, pistachio and juniper forests) have been significantly reduced and degraded in the recent past. Additional pressures include overexploitation of species through hunting and over-fishing. The decline of sturgeon, Caspian seal and leopard populations in the country are the most striking examples. With the decline of the enforcement capacity in the existing protected areas, unregulated hunting has significantly decreased the population of many wildlife species, which have been all but extirpated outside of protected areas, notably endangered species such as Urial sheep, Goitered gazelle, Asiatic wild donkey (kulan), pheasants, see-see partridges, black francolins, leopards, and snakes. A comprehensive up to date assessment of the conservation state of ecosystems and species throughout Turkmenistan has not been possible due to incomplete biodiversity monitoring, lack of PAs technical capacities and resources.

Insufficient Water for Agriculture and Critical Ecosystems

16. The free allocation of water for agricultural use does not provide any incentives for water-saving practices. The biodiversity and high-value ecosystems of Turkmenistan are under threat from desertification and land degradation, significantly linked to a reduction in the available water table, as massive amounts of water have been withdrawn from the Amu Darya river over the past 70-100 years, leading to the great diminishment of the Aral Sea and other smaller water bodies in the region. In Turkmenistan, as in other Central Asian countries, the current management system and water sector governance is unable to provide for sufficient ecological flow to maintain the ecological integrity of lakes and wetlands. The Interstate agreements guarantee a minimum flow to the northern delta of 3.2 km³/year (100 m³/s) and 2 km³/year for ecological and fish farming needs however in reality these norms are not observed nor enforced¹⁸. The practical application of the provisions for ecological flows in Turkmenistan is carried out according to the residual principle and a minimum ecological flow is not guaranteed. During low water years such as in 2000-2001 and in 2007-2008, both Karakalpakstan region in Uzbekistan and Dashoguz region in Turkmenistan had received only 50% water resources whereas the deltaic ecosystems in lower Amudarya reaches received only 20% of the required amount of water. Demand for water in Turkmenistan's agriculture sector is likely to increase, leading to reduced availability of water for biodiversity and ecosystem services. The growth of water consumption by various sectors incurring huge losses require an increase in water intake. Predicted temperature increase, followed by increased rates evapotranspiration leading to ever drier conditions and gradual decrease of runoff will negatively affect the already stressed water resources. Amudarya river flow will decrease by 15% by 2050. Increased water demand of up to 60% is expected for vegetables, a growing subsector. In the case of cotton and wheat, the two most important crops in the country, water demand is expected to increase by close to 20% and 10% per unit of area by 2040, respectively. By 2100 these figures will be close to 40% and 20%. Irrigation norms for key crops are likely to have to increase by 13% by 2030-2040.

17. The growth rate for the main crops is expected to increase by 13% by 2030-2040 and it is estimated that the need for additional water resources, excluding the growth of irrigated lands, will amount to 5.5 billion m³ in the future¹⁹. Given the level of the existing salinization of more than half of the irrigated areas, more water will be consumed for leaching of saline soils (total seasonal rate for 1 ha will likely increased by more than 1.5 times). Increased water insecurity will further

¹⁸ Aral Sea Wetland Restoration Strategy/ Wold Bank and Government of the Netherlands

"Incorporating environmental flows into water management in the Amudarya river delta"(2003-2007)
<https://www.arcgis.com/apps/MapJournal/index.html?appid=a64d4f5c870f44729858a639cb06928b>

¹⁹ https://www4.unfccc.int/sites/submissions/INDC/Published%20Documents/Turkmenistan/1/INDC_Turkmenistan.pdf

complicate water availability and will affect food security over the next decades. Turkmenistan is also likely to be heavily impacted by changes in the glacier systems in the Pamir Alai in the longer term. The average reduction in run off rates in terms of surface water collected in national storage and distribution systems is expected to be 10%, whereas during vegetation periods the reduction in run off rates will reach 30-40%. Due to the dry hot and sharply continental climate and geographical location of the country in the desert zone, Turkmenistan's biodiversity is especially vulnerable. The country is dependent on maintaining important ecosystem services, including natural services related to the collection and purification of natural water and climate stabilization.

II. STRATEGY

2.1 The long-term solution

18. The long-term solution for sustainable development and conservation of high value ecosystems in Turkmenistan's Amu Darya landscape has multiple key goals, but revolves around the concept of Land Degradation Neutrality (LDN) and around leveraging KBAs/IBAs within the wider landscape as the focal points for integrated land use management with biodiversity benefits from mainstreaming. These includes promotion of models of non-depleting farming, but at the same time effective conservation of critical ecosystem services. These ecological goals must be achieved within the context of supporting and securing sustainable and resilient livelihoods for local resource users, whose daily existence depends greatly on the integrity and productivity of these high value arid ecosystems. Therefore the long-term solution is one where government resource managers and local communities plan and implement integrated water and land natural resource use practices, that are resource-efficient, neutral from the point of view of land degradation, biodiversity friendly, and support healthy soil and vegetation.

2.2 Key past and ongoing interventions

19. The key past and on-going interventions consist of steady state led investments in the agriculture sector primarily supporting state ordered crops such as cotton and wheat, which have historically dominated the agriculture sector. A gradual and slow transition towards a market-based approach is anchored in recent government reforms in water and agriculture sectors, including privatization and diversification of agricultural production. For example, under the Resolution "On further improvement of reforms in the Agricultural Sector" signed by the President of Turkmenistan, the daikhan farms and other private entrepreneurs can take up land for longer term lease (99 years) and will benefit from some flexibility of cultivating their own choice of crops (70% of the land will be used for state order crops and 30% for private crops). The importance of private sector farmers is increasing steadily, larger enterprises having access to finance, advance technologies and practices while the new smaller entrepreneurs waging an unequal struggle against the old, bureaucratic and ineffective state system of command, lack of access to quality arable land, lack of adequate infrastructure (drainage, irrigation) and lack of access to irrigation, lack of access to technical knowledge, financing and technologies, are challenges which many find unable to cope with.

20. GEF with UNDP support, and other multilateral organizations and bilateral donors (GIZ, FAO) have been investing for a number of years in developing Turkmenistan's national capacity for sustainable land and water management and supporting financial incentives mainly through micro-grants, for small and mid-size farmers, with some progress. Previous efforts have included the GEF-funded MSP "Capacity Building and on-the-ground Investments for Integrated and Sustainable Land Management," (GEF ID #3239) under the CACILM Partnership Framework, from 2008-2010. While the terminal evaluation of the project rated it as generally satisfactory, the scope was clearly limited, and the first recommendation of the terminal evaluation was that relevant government agencies "take steps to initiate a review of the approach/philosophy, policy, legislation and institutional framework for land management in Turkmenistan with the aim of removing barriers that are standing in the way of SLM". Adaptation Fund funded project "Addressing Climate Change risks to farming systems in Turkmenistan at national and community level" have had successful results, with the final evaluation stressing the need of replicating such measures in other regions. The UNDP/GEF SCCF "Supporting Climate Resilient Livelihoods in Agricultural Commodities in Drought Prone Areas" (GEF ID 69606) has generated a number of outputs and good practices (such as multi-clustered maps and climate vulnerability assessments, Inter-farm water use plans) that the project will build on. Nonetheless, there remain significant gaps, given the country's low initial baseline, and the preliminary scope of initial efforts. There is little institutional capacity in land use and sustainable land management at local level, and only limited capacity to advise farmers on sustainable water/land management practices, and related conservation of critical ecosystems. There is also limited access to sustainable land management information products tailored for the needs of the

farmers. State institutions dealing with land and water management issues have received significant investment in equipment financed by the Government of Turkmenistan in recent years. However, these agencies lack the capacity to develop tailored and user-oriented sustainable land and water management information services for agricultural sector, whereas the mid and small size farmers have little access to financing due to prohibitive lending conditions and lack of technical knowledge necessary to develop farms business plans and bank applications.

2.3 The projected baseline scenario

21. Within the current Theory of Change and baseline situation, the project's strategy considers the transition towards a market-based approach as part of the baseline, including investments (e.g. agriculture machinery and irrigation technologies such as drip and sprinkler systems) in the agriculture sector foreseen under the Programme for Development of the agricultural complex for 2019-2025 of approximately 8,000 million USD. Several subsidized loan programmes for different types of agricultural production has been offered by the Government, so far Daikhanbank being the preferred financial institution disbursing loans for agricultural sector; approximately 10% of these loans issued to private farmers and entrepreneurs while the largest amount is channelled to large agricultural collective associations (daikhan associations) producing state order corps.

22. Where the GEF can be incrementally valuable is to address the remaining barriers and complement the Government baseline with initiatives that focus on the important other elements within the landscape, land-water NEXUS which are – integrated water management, sustainable pasture and forest management and retention of valuable ecosystems – all of which ultimately are indispensable to support and increase the effectiveness of the transition to a market based economy in Turkmenistan. The GEF incremental value will consist in promoting land degradation neutrality, prioritising policies and investments towards areas most affected by degradation; in demonstrating and increasing local knowledge on LDN compatible integrated land use management and SLM measure to achieve LDN, in a participatory manner, consulting all the affected stakeholders and incentivising farmers away from agricultural practices that negatively impact soil productivity; and in strengthening PAs management efficiency and KBAs/IBAs integration into the wider landscape, through improved zoning and promotion of SLM in production zones and ecological corridors supported by local communities (*Please see Annex 24 : List of Baseline Programmes and Projects*)

2.4 Barriers and theory of change

Lack of technical capacity, information, institutional coordination and resources for integrated sustainable land and water management and integration of biodiversity conservation in production landscapes

a. Lack of technical capacities, institutional coordination and enabling framework

23. The most significant issue is that technical capacity and know-how for sustainable land and water management remains centralized in the capital or localized in the sites of previous interventions. At province, district, and local levels there is little or no awareness on sustainable land management approaches (best practices and technologies), and there are no distribution platforms (both public and private) for extension services that can strengthen the skills and awareness of farmers on sustainable land and water management. In terms of vertical coordination (or lack thereof) the land use planning exercise is a practical example. Land use planning is carried out centrally, at state level. The plan for the use of cultivated areas and selected crops is approved at the central state level and communicated down the line to all regional and local authorities for execution: down to Province (velayat), then to district (etrap) and daikhan associations and settlements (gengeshliks) level. There is little or no interinstitutional coordination in this top-down land use planning exercise, integrated participatory land use planning is largely a foreign concept and there is no consideration given to key biodiversity habitats and species that exist outside the borders of the Protected Areas during the land use planning .

24. Although irrigated crops are strictly monitored, there is no institutional mechanism for monitoring of pastures at local level, there are virtually no formal links between local government and pasture users, partly due to absence of the relevant by laws under the 2015 Law on Pastures. According to the Pasture Law, the primary users of pastures who are renting the pastureland are daikhan associations (state livestock farm). Secondary users are livestock tenants on these farms or private livestock owners and herders who use these pastures. Farmers' associations allow grazing of state owned livestock based on lease agreements, according to which private tenants are provided with access to pastures for grazing both state livestock and their own. Some state-owned enterprises also provide grazing land for other residents' privately owned livestock. These grazing areas are usually located close to settlements, where there is some watering infrastructure available and the number of livestock per unit area is very high. The cumulative effect of a number of barriers such as: (i) the lack of pasture

management due to lack of a comprehensive pasture inventory to determine the pasture use and better plan pasture allocations (ii) lack of farmers' knowledge on sustainable grazing techniques, (iii) insufficient pasture watering infrastructure which limits use of distant pastures, (iv) short term land lease and lack of any incentives for sustainable pasture management with accrued benefits on medium/long term, (v) lack of a pasture monitoring institutional arrangements, lead to a continuous degradation of pasture areas.

b. Little or no technical knowledge necessary to access financing for small and mid-size farmers

25. There is insufficient public and private investment to develop small and medium-size businesses based on integrated pastureland and forest management to upscale integrated management approaches across the country. Credit to farmers is provided through limited special government programs administered by the Daikhan Bank. The preferred credit is issued by Daikhanbank to farmers and collective associations producing state order crops, for the purchase of agricultural equipment, tools and devices, water conserving irrigation equipment, over a 10 year term, based on expected equipment lifetime, with annual leveled repayments and an annual interest rate of 1%. This credit programme was developed by the Central Bank of Turkmenistan in accordance with a presidential decree titled "On Financial Support for Producers of Agricultural Products" dated March 6/2013. Financing of other types of agricultural activity such as husbandry of livestock and fowl, production, and recycling of agricultural products beyond state order crops and various other services carried out by private agricultural enterprises and individual smallholder farmers, are also subject to concessional lending for 10 year terms with an annual interest of 5%. Loans to private farmers and individual smallholders farmers require collateral, loan security and advance payment, which small and midsize farmers have difficulties to find. The knowledge and access to paid technical assistance for completing business plans and filling out a complex loan application procedure is often prohibitive for these farmers. The current financing instruments are serving large private farms and enterprises, however hundreds of thousands of smallholder farmers, small and midsize farmers who are working on these large collective farms are largely left out from these subsidized loan programmes.

Limited human and financial resources in the management of PAs

26. The lack of capacity at the individual, institutional and systemic levels is a limiting factor in biodiversity conservation and PA management in the country. The national PA system's effectiveness is limited by its small area of coverage, restricted range of PA categories and governance types, insufficient devolution of decision-making and financial authority, and the restricted participation of local stakeholders and resource users. As in many countries in the region, Turkmenistan's PAs in general have a shortage of human and financial resources, and conservation actions are only partially implemented. The implementation and enforcement of laws and regulations relating the PA management is not at a high level, and is uneven throughout the country. Some PAs do not have dedicated staff (depending on the level of the PA), and for PAs that do have rangers, patrolling is carried out inconsistently, and not in a structured manner. Consequently the level of illegal activity in and around PAs is not effectively controlled, and not well documented. In cases when illegal activity is detected, there is not a consistent or effective approach to prosecution or penalties (monetary or otherwise). The low level of enforcement is exacerbated by limited infrastructure such as ranger stations, and inadequate equipment (e.g. binoculars, uniforms, packs, weapons) and available vehicles for rangers and inspectors. Ranger salaries are also low, and with harsh working conditions there are few financial (or other) incentives for staff to pursue a long-term career, with corresponding personal and professional capacity development. The current baseline METT scores for the PAs within the scope of this project have been completed during the PPG phase. A few of the PAs within the scope of this project were also supported through a previous UNDP-GEF project on strengthening the national system of PAs. The following METT scores were recorded for the main targeted Protected Areas(PAs): Gaplankyr State Nature Reserve – 53%; Amu Darya State Nature Reserve – 56%. There are critical capacity gaps related to staff, equipment, skills but also to basic management tools such as the lack of management plans, lack of appropriate PA zoning, lack of regulations for certain categories of PAs (for example sanctuaries) that are hampering management objectives and conservation of key indicator species and valuable biodiversity habitats such as tugai forests or the fragile desert pasture ecosystems.

Insufficient awareness, coordination, and cooperation for effective management of shared water resources and restoration of the Aral Sea Basin.

27. The Amudarya River forms a major portion of the border between Turkmenistan and Uzbekistan, and both countries draw water from the river for agricultural and other uses. In addition, Turkmenistan is a downstream country along the Amu Darya river, which originates in Kyrgyzstan, Tajikistan, and Afghanistan. The project area, and much of the northern part of Turkmenistan, falls within the wider Aral Sea basin, which has been devastated in the past few decades by poor water management and agricultural practices, and is currently one of the most degraded landscapes in the world. Truly addressing sustainable land and water management across the Aral Sea basin landscape requires regional cooperation, effective

coordination, and the cultivation of synergies among all stakeholders. Regional coordination on the Aral Sea is currently undertaken through the International Fund for Saving the Aral Sea (IFAS), and Turkmenistan has recently become more active in this forum. However, there is still inadequate understanding and awareness of the overall problems of sustainable land and water management in the country, and government institutions do not have sufficient capacity to effectively engage at a regional level in order to substantively contribute to sustainable land and water management solutions, and to restoration of the Aral Sea basin landscape. There is a need for greater awareness and understanding among local resource users, local decision makers, and national authorities about the nature and extent of the land and water issues along the Amu Darya, within the Aral Sea basin. Turkmenistan must increase the capacity of government authorities to manage these issues, and to engage at the regional level in order to effectively work with all partner countries within IFAS to continue resolving the problems of the Aral Sea Basin.

Theory of Change

28. The project's Theory of Change (Fig.1) is based on the premise that multiple types of benefits can be unlocked when land and water resources are managed in an integrated way that takes the full range of ecosystem services into consideration. The project's Theory of Change aligns with the STAP's Primer on the Theory of Change <https://stapgef.org/resources/advisory-documents/theory-change-primer>, including the following approaches: system thinking (e.g. system description and system assessments), identifying and sequencing the intervention options, adaptive implementation pathways, drivers for switching paths and focus on learning and knowledge sharing. The project's three components are closely aligned and linked to ensure a scalable landscape approach that provides for the continuity of ecosystem services that sustain livelihoods. The project's main feature is its integrative approach, targeting multiple types of landscape areas : irrigated agricultural land, pasture land, and critical ecosystems (protected and otherwise) within the production landscapes of four priority districts.

29. For an integrated landscape approach, a coherent and complete picture of the landscape has been described, visualized and addressed through multiple types of related management measures. For example, agricultural land uses must be implemented that do not diminish the ability of soils to provide benefits for people and biodiversity, and water must be managed in a way that reduces wastage and facilitates sustaining flows necessary for ecological integrity. In addition, protected areas must be carefully planned and managed, appropriately contextualized within the landscape. Both biodiversity and resilient livelihoods depend on soil that is not degraded, and vegetation that is resilient and provides fodder and critical habitats. Both livelihoods and ecosystems depend on adequate flows of water. In addition, in many respects, sustainable livelihoods within Turkmenistan's Aral Sea Basin are dependent on different components of biodiversity. The project aims to put all the different types of on-the-ground management practices in place that are necessary for an integrated approach to landscape management that is climate sensitive: efficient water management, sustainable and biodiversity friendly land management for arable land and pasture land, and effective protected area management. The project does not have the scope to fully implement efficient water management and sustainable land management throughout the entire landscape, but by introducing these good practices in priority areas in Dashoguz and Lebap provinces and through capacity strengthening of responsible stakeholders, the project results have the potential to support transformational development paths, that could be sustained and replicated throughout Turkmenistan's Amudarya basin.

30. The proposed interventions are sequenced in order to include adaptive management strategies encompassing integrated and participative approaches, innovative land restoration and pasture management techniques that will be included in alternative transformational pathways and will be reinforced consistently through learning and awareness that are necessary for removing existing barriers. At local level the sustainability and resilience of production systems will be attained by an integrated management of the natural capital (soil, water, biodiversity) that is LDN compliant. At national level, the project will strengthen policy frameworks and capacities necessary for achieving Land Degradation Neutrality, which will combine at scale the project-promoted successful integrated land use planning and SLM implementation together with many local smallholders in the project targeted areas. At regional level, the project will support national capacities to engage in regional dialogue, and with development partners, scientific institutions and other international organizations.

31. Several triggers have been identified that will support the expected path switch: (i) Commitment towards LDN : The National LDN Target setting process led by the government (partially supported by the project) and the project-driven regional LDN target setting (Output 1.1.) are key drivers for the achievement of land degradation neutrality and progress towards the SDG 15.3. LDN and LDN centred Land use planning promoted by the project are expected to change the way institutions involved in land governance operate (Output 1.1.) The National Strategy and Action Plan on Combating Desertification as well as the manuals, guidelines and regulatory amendments that will be developed with the project's support, will contribute to institutional sustainability and scaling up of the LDN compatible SLM practices demonstrated by the project in Dashoguz and Lebap provinces. (ii) Incentives: The project's micro-grant scheme will incentivize farmers away

from unsustainable agricultural practices while demonstrating that SLM measures can, in fact, be profitable. This will change the perception of “delayed profit resulting from SLM” which persists today. A mix of incentives (i.e. provisions for the inclusion of SLM/LDN subsidies within the regulatory framework; financial incentives and technical assistance provided to facilitate access to soft loans for SLM measures) will support SLM in priority areas and selected “LDN hot spots” addressing existing land degradation drivers and providing for scalable results and models on 746,303 ha production landscape in the priority regions (Outputs 1.2-1.4 and 2.3).

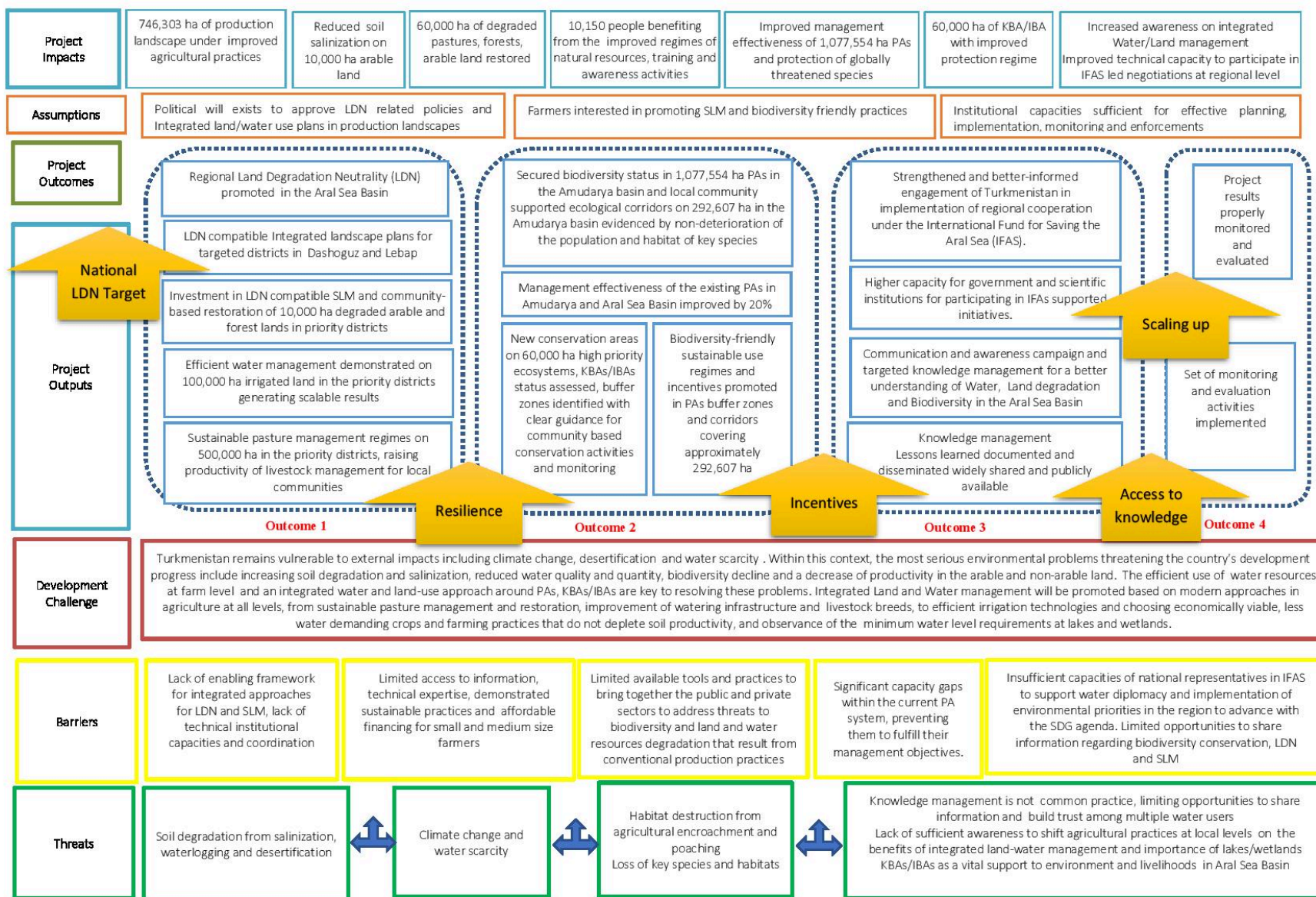
32. (iii) Resilience: Landscape management tools for conservation and sustainable biodiversity management (i.e. PAs Management Plans, Improved PAs efficiency; cross-border migration corridors; ecological corridors; resilient production zones and improved SLM integration) will result in the delivery of global environmental benefits (GEB) including enhanced connectivity between KBAs/IBAs sustaining increased ecosystems and livelihoods resilience (Outputs 2.1-2.3). (iv) Increased awareness and access to knowledge : The increased level of awareness and technical knowledge of the natural resource users and decision makers will translate into a wider uptake of SLM measures, improved food security and conscientious and effective management of water and land resources. At regional level, strengthened water diplomacy and regional dialogue platform will contribute towards building trust and mutual accountability over sharing water resources, and advancing SDG agenda in the region. A robust Knowledge Management approach based on learning and synergies will inform the adaptive management processes (Component 3). (v) Scaling up: The project generates scalable tools e.g. demonstrated practical examples that work; guidelines, manuals, water/land use planning tools expected to be formally adopted, institutionalised/replicated, LDN related policy support and multi-stakeholders platforms that are essential to create ownership.

33. The project’s Theory of Change includes several key assumptions and their fulfilment will be monitored through the M&E and UNDP Risk Register. It is assumed that political will and financial commitments exist/will be maintained, to implement the integrated water-land management planning needed to advance towards LDN and efficient water use on irrigated farm areas that do not deplete soil productivity. It is expected that the national institutions will have the capacity for effective planning, implementation, monitoring and enforcements (Outputs 1.1 and 1.3). Another assumption is that there will be sufficient interests and commitment from local farmers and producers to take up biodiversity friendly agricultural practices in production landscapes (Outputs 1.2, 1.4 and 2.3) and that the national institutions will have the capacity for effective biodiversity management within PAs and will secure local communities engagement in biodiversity friendly agricultural practices in buffer and production areas (Outputs 2.1 and 2.3).

34. The successful engagement of the local and national stakeholders will depend on the availability of financial resources to promote sustainable agriculture in production landscape. Similarly, it is assumed that economic benefits will be attractive enough for farmers to implement sustainable production practices (Outputs 1.2, 1.3, 1.4 and 2.3). The roles and responsibilities of the stakeholders in support to the achievement of the intended GEB are described in the Stakeholders Engagement Plan. The occurrence of drought and water deficits are becoming more frequent in Turkmenistan’s arid climate and the interventions options are anchored in hydroclimatic models and climate risk assessments.

35. The project consistently applies resilient and adaptive management and aligns with the LDN principles through a system thinking and detailed assessments of land degradation of different land use types, supporting climate risk informed agricultural extension services, LDN compatible SLM measures and biodiversity conservation, including building resilient terrestrial and freshwater ecosystems and climate-smart agricultural practices that are expected to contribute to reducing this risk. The Theory of Change is consistently embedding resilience and transformational change, reflecting the focus on diverse agroecosystems, using development pathways that include adaptive management strategies encompassing integrated and participative approaches, innovative and also well tested land restoration and pasture management techniques, learning and awareness as well as several triggers that could support the switch to transformational pathways. The diagram below represents the proposed Theory of Change:

Theory of Change



III. RESULTS AND PARTNERSHIPS

3.1 Project description and expected results

36. The project's objective is to promote land degradation neutrality, restore and improve the use of land and water resources in Turkmenistan's Amudarya watershed to enhance the sustainability and resilience of livelihoods and globally significant ecosystems.

Component 1 Promoting Land Degradation Neutrality

37. This project component will focus on the promotion of LDN approaches in production zones and initial investments in participatory, integrated land use planning that will contribute to the land degradation neutrality and improved integration of key biodiversity habitats into surrounding geographies, thus securing critical ecosystem services. The project's work is aiming at setting up LDN regional targets, action plans and monitoring systems for the project landscape, supporting national policies and programmes, strengthening the institutional capacity to address LDN within the broader context of the Multilateral Environmental Agreements (MEAs) and SDGs agenda, focusing on the integrated land and water resource management in the Amu Darya basin, as the main way for improving the ecological situation in the region and ensuring livelihood resilience.

38. The project envisaged "upstream" policy level support and "downstream" activities, at the project sites, under this Component that may pose potential social and environmental risks. The project experts will undertake a scoped Strategic Environmental and Social Assessment SESA (aligned with the UNDP requirements) in order to evaluate the potential social and environmental effects of the project's supported policies and plans as follows: (i) LDN targets and integrated LDN compatible land use plans in 4 districts (Output 1.1.) (iii) support to national policy development (Output 1.1) (iv) Sustainable Water Management Plans (Output 1.3); (v) Sustainable Pasture management plans (Output 1.4). The SESA will be conducted by specialised safeguards experts/company with the technical support of the Project Manager, Chief Technical Advisor and the LDN and Land use planning experts jointly with the national IP.

39. The qualified experts will further conduct targeted screening/ site specific assessments (including climate risk and vulnerability assessments) for all the envisaged demonstration works following applicable domestic policies and legislation and UNDP SES requirements. The project's field coordinators and water and land specialists, together with the specialized safeguards experts, will ensure that i) the risk management measures are aligned with UNDP Enterprise Risk Management Policy and national legislation and ii) that will be fully implemented and monitored. The selected project sites will be validated during the project inception phase, before the start of activities. The participatory stakeholders consultation process facilitated by the project, in order to validate the project sites and conclude partnerships with the land managers (e.g. Daikhan associations) will include analysis of the potential risks described in the SESP (Annex 5, SESP) and the ESMF (Annexed as a separate report) and planning for implementation and monitoring of the risk mitigation measures.

40. **Outcome 1 Land degradation neutrality in Aral basin promoted**, as evidenced through: (i) LDN-compatible land use in 660,000 ha of production landscape; (ii) crop resilience to salinization improved in 10,000 ha (iii) 60,000 ha of degraded pasture, forest and arable land restored; (iv) improved livelihoods of 9,750 farmers (30% women) with immediate replication potential for 100,000 people.

41. This project component will allow overcoming of barriers that prevent coordinated efforts to promote sustainable management of production landscapes and integrated land use planning towards achieving Land Degradation Neutrality (LDN) in two provinces situated in Amudarya River Basin, Dashoguz and Lebap. The project will work with the Ministry of Agriculture and Environmental Protection (MAEP), State Committee for Water Resources, State Statistical Committee, Inter-Sectorial Commission on Environmental Protection, Hydrometeorology Service of the Ministry of Agriculture and Environmental Protection, Administrations of regions (governors of Lebap and Dashoguz provinces and their technical teams) and district level authorities (khyakimliks), Academy of Science, Turkmen Agricultural Institute in Dashoguz, Research Institute of Agriculture, Water Design and Research Institute (Turkmensuwlymtaslama), Agriculture University in Ashgabat and Dashoguz, NGOs, and representatives of daikhan associations, daikhan farms and land services at province and district level. During the PPG stage, several daikhan associations were preliminarily selected in the targeted areas but the final decision on the selection of daikhan associations will be taken during the project inception phase, in order to adjust to the up-coming daikhan associations reorganization in the two targeted provinces (please see the brief Note on the dissolution and reorganization of daikhan associations presented under Annex 25). The targeted areas were preliminarily selected based

on the variety of landscape and land use types, proximity to PAs and KABs/IBAs, land and water resources degradation, willingness of daikhan associations to participate into the project activities and consultations with local district authorities. (please see Annex 6 Targeted Landscape Profile).

42. **Output 1.1** Integrated landscape plans for priority areas in Dashoguz and Lebap provinces (including mapping, long term restoration plans for priority areas in and around KBAs and associated agricultural landscapes; regional Land Degradation Neutrality (LDN) targets established and action plans and monitoring systems agreed for attaining them).

43. The project's work under this output will complement the government's efforts to prioritize sustainable land management policies and set up National LDN Voluntary Targets concomitantly with the planned revision of the National Strategy and Action Plan to Combat Desertification. The government of Turkmenistan has confirmed its commitment to achieving land degradation neutrality by 2030 and to setting up a national voluntary LDN target with the support of the UNCCD Global Mechanism LDN Target Setting Programme. At the PPG stage, UNDP has facilitated dialogue and correspondence with UNCCD Target Setting programme. Subsequently, the government had initiated a partnership with the UNCCD (please see Annex 28- UNCCD Support Letter) and has started the preparatory steps to enable the inter-sectorial consultations. The government intends to update the National Plan to Combat Desertification. In this regard, an Intersectoral Commission on Environmental Protection has been established in November 2020 with the aim of supporting the coordinated integrated policy work. The government's decision is to work with the UNCCD and integrate the National LDN targets within the framework of the National Strategy and Action Plan on Combating Desertification.

44. The project will support the revision of the National Action Plan to Combat Desertification. It will also support the government with the national LDN baseline collection, and at the same time, connect the project-supported regional LDN target setting (in Dashoguz and Lebap provinces)with the government-supported National LDN target setting process. The results and recommendations will be included in the National Plan to Combat Desertification, the implementation of which will become mandatory upon official approval. The project's focus will therefore be on the regional LDN target setting in the two provinces but additionally, and more importantly, on creating the needed synergy with the National LDN target setting process, within the broader SDGs Agenda.

45. **Activity 1.1.1. Targeted capacity development and knowledge sharing on LDN and integrated land use planning within the broader SDG agenda** The project will support stakeholders' participation in LDN target setting and integrated land use planning, and will strengthen their technical knowledge by delivering 10 capacity building workshops for the national and local (at region and district levels) authorities on: (i) LDN target setting (LDN methodology; LDN default indicators and additional indicators; LDN progress: monitoring and reporting); Implementing LDN: enabling environment needed for LDN implementation; LDN integration into land use planning; LDN metrics and integration with the national system and reporting mechanism; Training on analysis of remote sensing imagery within the context of LDN target setting to inform national and regional land degradation assessments; Coaching on the use of national datasets. (ii) LDN and inter-sectorial policy making within the context of MEAs international commitments (UNCBD, UNCCD, UNFCCC) and the broader SDG agenda.

46. In addition, a number of informative meetings will be organized for the central and regional/local administrative and strategic planners within the State Committee on Water Resources and Ministry of Agriculture and Environment Protection (MAEP), Agriculture Institutes and Academy of Science. During the third year of implementation, the project will start collecting lessons learned and will disseminate good practices on LDN target setting and LDN guided integrated land use planning in the region.(iii) A Regional LDN Workshop will be organized under the leadership of the Ministry of Agriculture and Environmental Protection and the Ministry of Foreign Affairs (UNCCD Focal Point), with the participation of UNCCD representatives, GEF, UNDP, FAO experts. The project will showcase Turkmenistan's experience and will provide a platform for interaction and peer-to-peer knowledge, sharing on LDN targets setting and implementation, including challenges and opportunities on setting regional LDN targets, among countries in the region and with similar climate conditions. The workshop proceedings and reflections based on the analysis of the shared experience will be compiled and disseminated widely in the region. The project will be working closely with all stakeholders to support government, natural resource management authorities and institutions to meet their obligations, and with resource user rights holders to claim their rights (please see Annex 5, SESP Risk 5)

47. **Activity 1.1.2 Setting up an enabling platform for LDN target setting and implementation**This activity will support institutional coordination and inter-sectorial cooperation by bringing stakeholders together under an Inter-sectorial LDN Expert/Working Group to be set up under the Inter-sectorial Commission on Environmental Protection chaired by the Ministry of Agriculture and Environmental Protection (MAEP). The LDN Working Group will provide a multi-stakeholder platform to secure active participation of key stakeholders in National and Regional LDN targets setting, including experts and policy specialists, delegated as representatives from governmental organizations, the private sector, NGOs.

Government leadership and multi-stakeholders engagement creates a collaborative and synergetic framework for monitoring and evaluation of the LDN implementation. This group's activities are coordinated with the support of the UNCCD Focal Point.

48. The Inter-sectorial LDN Expert Group will be supported by the project experts (LDN International and local project experts; Land use Expert; GIS analyst) and will include at least 30% women among participating experts and officials. The Inter-sectorial LDN Expert Group, will support baseline collection for the LDN targets setting, identifying the main drivers of land degradation and biodiversity loss. This Inter-sectorial Working LDN expert group will have at least four meetings in a year to validate intermediary results. The project will support regular meetings between national and regional/local decision makers, during the LDN baseline collection, land use data analysis and LDN target setting and integrated land use planning (as there is little or no coordination between central and regional/district authorities in land use planning). The project will support regional LDN target setting and will enter into a more rigorous detailed analysis of the baseline in the two targeted provinces Dashoguz and Lebap. The government will lead the National Voluntary Target Setting in partnership with UNCCD.

49. **Activity 1.1.3. Support to mainstreaming LDN into policy framework.** LDN concept will be mainstreamed into the existing legislative framework and the project will have several key entry points incremental to the government's efforts: (i) support to the revision of the *Action Plan to Combat Desertification* (led by the government). The project will provide technical expertise and technical inputs into the development/update of the Action Plan to Combat Desertification, to include the project's results on the *regional LDN target setting* process; the *LDN compliant integrated land use planning* and the *LDN compatible GIS based Land Use Concept* as well as recommended measures and investments for LDN financing and identification of the monitoring and reporting arrangements- as stepping stones towards achieving national and regional LDN targets, showcasing Dashoguz and Lebap experience. This is expected to support replication of regional LDN centered land use planning and target setting in all the provinces in the country; (ii) Then, the project will develop gender-sensitive bylaws to the *Law on Pastures* in order to include pasture use regulations and institutional arrangements for mandatory pasture use monitoring responsibilities at local level.

50. The legal amendments will further provide for pastureland allocation aligned with the "neutrality mechanism", so that pastures allocation will not be done chaotically but it will respect the prevent-reduce-restore degraded land hierarchy and it will be aligned with the district level, LDN compliant, integrated land use plan. Additional measures will be developed to regulate Pasture Lease Agreements, with the inclusion of distinct requirements for applying sustainable carrying capacity, mandatory implementation of rotational grazing, use of distant pastures and pasture monitoring. More importantly, the project will include regulatory provisions for subsidies/financial incentives for farmers applying sustainable pasture use and SLM in order to incentivize and support farmers with initial capital investments into SLM measures. (iii) The project will further support amendments to the *Land Code* in order to introduce the definition of the LDN concept and means to implement it through mandatory integrated land use planning, that will provide for the neutrality mechanisms and "counterbalancing" of newly degraded areas by restoring land that is already degraded, which is what distinguishes LDN from existing strategies to combat land degradation. (iv) The project will also support the government's efforts under the National LDN target setting exercise, to identify LDN investment opportunities through a more targeted analysis of the possibilities to integrate LDN within the available financial mechanisms.

51. **Activity 1.1.4 LDN target setting at regional level, in Dashoguz and Lebap provinces.** The regional and national LDN target setting processes will be inter-connected and the baseline analysis will be done synergistically, primarily due to the fact that the land use planning in Turkmenistan is highly centralized and conducted at national level for all the provinces. However, the project's focus will be on the two targeted provinces Dashoguz and Lebap. Data could be collected through multiple sources such as official statistics, Earth Observation (EO) data, Global Soil Organic Carbon Map, land use and management practices and surveys. The LDN baseline is the land-based natural capital as measured by three voluntary LDN indicators (land cover change (LCC), land productivity, SOC) and additional national indicators. Each of these indicators assesses a different aspect relevant to LDN: LCC detects the human actions that drive land degradation and its reversal; land productivity reflects the impacts of those drivers on plant production as a measure of ecosystem function; and change in SOC stocks, which responds more slowly, indicates the change in productive capacity. The project experts will use satellite image analysis, ground truthing, soil sampling and harmonisation of soil assessments methodologies to include LDN metrics. Targeted training and coaching will be provided by the project's experts and UNCCD technical expert (who will be supporting the work on National LDN Targets). The project expert team, under the international LDN Specialist leadership, and with the support of soil analysis and land-use specialists and GIS experts will identify several "LDN hot spots" to be prioritized for further action in Lebap and Dashoguz provinces, where research will enter a fine-granularity level.

52. The LDN Soil Organic Carbon (SOC) data will be complemented with sample surveys in targeted areas and global SOC data correspondence with national soil carbon data will be assessed. In Turkmenistan, some laboratories have the capacity to conduct soil humus content analysis which can be converted to soil organic carbon and a quick assessment of these institutional capacities of the laboratories to analyse and monitor LDN indicators will be undertaken during the baseline analysis with recommendations for targeted investments to strengthen these capacities (to be included in the National Action Plan to Combat Desertification). Other indicators can be also explored, aligned with the GOST methodology (Soil, Methods for laboratory determination of organic substance content). During the PPG stage a number of analysis of the targeted areas in Lebap province have been conducted beside soil humus: phosphorus dioxide, potassium oxides, and soil mechanism composition that would give a better assessment of soil salinity (Cl:SO₄ ratio). These analyses can be used to complement LDN indicators, however the capacity of the laboratories for soil analysis in the country is rather weak. The Land Productivity/ Net Primary Land Productivity Indicator may have considerable variability but can be used to assess the state of non-irrigated arable land for which ground monitoring require large financial and technical costs. Assessment of pastureland will be complemented by a combination of participatory mapping of targeted landscapes and several sample surveys.

53. The Normalized Difference Vegetation Index (NDVI) is measured in neighbouring countries and it will be explored by the existing soil laboratories in Turkmenistan, however as there is no experience with this indicator in the country, some initial capacity building and strengthening equipment base to cover LDN metrics will be provided with the project support. Land cover indicator will be determined based on Earth Observation data and will require geospatial mapping of land cover classes using comparable methodologies over a 10-15 years' time span. The Global Land Cover SHARE could be used. It is based on the utilization of the Land Cover Classification System (LCCS) for harmonization of the various available land cover databases, using the land cover legend based on the Land Cover Meta Language (LCML) of the FAO (2016). The following hierarchical classification could be explored: Level 1 is based on IPPC categories (IPPC,2006); Level 2 is based on land cover classification, temporarily used in the System of Environmental-Economic Accounting (SEEA), which uses the FAO LCML (UN; 2014). The LDN process may use these classification systems as a guide and assess the correspondence with the land classification in the country. LDN metrics will be calibrated. It is recommended that climate variability effects on LDN will be analysed (air temperature, precipitation, relative air humidity). Additional desk and field work will confirm regional land degradation drivers, the "LDN hotspots" and will plan regional LDN targets and subsequent actions jointly with key regional stakeholders. Results at regional level and recommended actions will be incorporated into the National Strategy and Action Plan on Combating Desertification, as a scalable good practice of LDN work at regional level. The project was designed based on GEF STAP Guidelines on Land Degradation Neutrality and the UNCCD's Scientific Framework for Land Degradation Neutrality.

54. The main stages of the Regional LDN targets setting process supported by the project are proposed below:

- Stakeholders engagement and trainings (under Act. 1.1.1): A series of round table meetings of the LDN Inter-sectorial Stakeholder Expert Group will be organized to first elaborate the methodology and agree on the necessary baseline information. An initial information and training/coaching about Land Degradation Neutrality and the *no-net-loss* approach will be organised by the project. Stakeholders will be mobilised and involved at all stages (i.e. in the LDN baseline validation and data processing, analysis of the national and sub-national drivers of land degradation and analysis of potential counterbalancing measures on the ground and finally identification of LDN targets and associated measures, validation and enforcement of commitments and establishment of potential LDN partnerships).
- Setting the land degradation neutrality baseline: With the project support, the LDN Expert group will collect baseline values for the three global LDN indicators: Soil Organic Carbon (SOC), Net Primary Land Productivity (NPP) and Land Cover and Land Cover Change (LCC), validated at regional level for the two targeted regions. The project will support LDN progress assessment and targets identified at regional level. The government (with the UNCCD funding) will support the progress assessment and LDN targets at national level. The project will organize regular meetings of the LDN Expert Group and the Inter-sectorial Commission on Environmental Protection to discuss, analyse and validate the regional LDN targets.
- Assessing land degradation: The three LDN indicators will be complemented, as needed, with other indicators monitored in the country, validated for Dashoguz and Lebap regions, estimating for each indicator the average value over 10-15-year assessment period prior to the current condition. In addition, high priority areas for immediate LDN action ("LDN hot spots") will be identified in Dashoguz and Lebap, with greater focus in the 4 targeted districts; restoration activities under Output 1.2 and 1.4 will prioritize these LDN hot spots . Subsequently, the project will identify the drivers of land degradation, analyzing different sampled areas in order to assess the dynamics of degradation across Dashoguz and Lebap regions. The project will complete the assessment of current status, trends, drivers including

impacts of climate change and costs of land degradation based on existing data. The project will consider STAP's guidance on climate risk assessment (<http://www.stagef.org/stap-guidanceclimate-risk-screening>).

- **Defining regional voluntary LDN targets** for the three main LDN indicators complemented with additional indicators. The LDN indicators (land cover, land productivity and soil organic carbon) in target regions will be assessed and mapped.
- **Mainstreaming LDN in land use planning**: This phase will establish the necessary land use planning to achieve the LDN targets at the region level. The “LDN hot spots” will be prioritized for action during the development of the Integrated Land Use Plans in the targeted districts. This stage will be coordinated with the Act 1.1.5, the LDN expert teams will work together with the Land use expert teams and will also guide LDN compatible land use planning in the four targeted districts.
- **Establishing measures to achieve LDN targets**: this step will identify the measures that need to be implemented on the ground (in the two regions Dashoguz and Lebap), consisting of a whole range of feasible Sustainable Land Management (SLM) interventions. The project will align the SLM measures under Outputs 1.2, 1.3, 1.4, 2.3 with the recommended SLM interventions identified by the LDN Expert Group in order to achieve LDN targets at province (velayat) levels. Land use decisions will be monitored and their cumulative impact will be estimated so that negative impacts will be counterbalanced by reversing land degradation on the same land type elsewhere.
- **Development of Regional LDN Action Plans** in both regions: planning for achievement of LDN targets, partnerships and financing LDN compliant interventions and for dissemination of LDN benefits using LDN as a mean to scale in and scale out SLM measures.
- **Monitoring LDN progress**: with the project’s support, an LDN monitoring system will be demonstrated at regional level, to observe the changes on the land status, through monitoring of each LDN indicators separately. The values of all three indicators must remain stable or improve for LDN to be achieved. The institutional arrangements for the regional LDN monitoring and reporting mechanisms will be identified. The LDN monitoring system will be integrated into the national land use monitoring system.
- **Reporting LDN benefits**: will establish an LDN monitoring and reporting scheme through which progress towards LDN regional targets will be monitored and communicated at national level. Advancing towards LDN regional targets in Dashoguz and Lebap will contribute to the achievement of the LDN National Voluntary Target.

55. **Activity 1.1.5 Integrated land use planning in Dashoguz and Lebap** will be coordinated with the Activity 1.1.4 stage “LDN Planning and Implementation” and the process will be led by an International LDN Land Use Planning Specialist and national LDN Specialists. In Turkmenistan, land use planning is done at central level based on the information received from province (velayat) level on the availability of all land use categories in the country (Annex 27-Land Use Planning Scheme In Turkmenistan). As Land Degradation Neutrality is attained at local and regional levels, the project will work with the authorities involved in land use planning at both national and province levels, to guide the participatory “Integrated land-use planning” in the priority districts of Dashoguz and Lebap provinces (Turkmenbashi and Ruhubelent /Deinau and Darganata) using the bio-physical factors that have been analyzed during the LDN target setting and integrating LDN “neutrality mechanism” into the land use planning. The LDN hierarchy “avoid-reduce-restore” will be central to the integrated land use planning in the project area (at district levels). Within the context of application of LDN concept in the integrated land use planning in the 4 pilot districts, the existent conditions, the LDN *hot-spot areas* and high risk (of degradation) area in the future will be determined and cost-effective SLM prioritized in these areas.

56. The project will explore the feasibility of possibility of using the final Innovative Land Use Planning software, promoted by UNCCD through open source data, as a result of the recent GEO-LDN Technology Innovation Competition, whose results will be final during the first quarter of 2021²⁰. Placing LDN at the centre of land use planning can be challenging, as it was reported by the UNCCD Science-Policy Interface (SPI)²¹, in that “limited national progress is evident when it comes to establishing effective integrated land use planning systems and embedding neutrality mechanism into them”. Recognizing the importance of filling this gap, UNCCD country Parties tasked the SPI with the development of a demonstration resulting from an open call, of how LDN can be incorporated into existing open source land use planning and trade off analysis tools. It is in this context that the GEO-LDN Initiative and the SPI have launched this innovation competition; the challenge is to develop a software that can support the implementation of a neutrality mechanism within a well-established open source model. This “no net loss” land use planning module would help users to map anticipated future impacts of land use decisions for a given area. A land use planner would be therefore able to generate a scenario where all expected losses of productive land can be counterbalanced with planned gains for each land type. In Central Asia

²⁰ <https://www.unccd.int/news-events/competition-design-land-use-planning-software-land-degradation-neutrality>

²¹https://knowledge.unccd.int/sites/default/files/2019-08/UNCCD_SPI_2019_Report_1.2.pdf

countries in general and in Turkmenistan- confronted with rampant desertification and land degradation in particular, the resulting “Neutrality Maps” from using such an innovative tool would be extremely useful, as it will allow visualisation and quantification of gains (where interventions are planned to reverse past land degradation), stable areas (where land based natural capital can be maintained through good management) and anticipated losses (where realistically it is determined that land degradation may not be avoidable). No net loss would occur when the planner is able to generate a scenario where all anticipated losses can be counterbalanced with planned gains for each land type, while the integrity of all other land is maintained. The project will follow closely with UNCCD²² the results of the competition and will explore ways of using this module or further adapting it to the country’s needs.

57. In addition, the project will coordinate closely with, learn from and share knowledge with, the GIZ supported new “Integrative and Climate sensitive Land Use in central Asia 2021-2024”. The following stages under this GEF project are envisaged, building on FAO land use planning guidelines and lessons learned from the land use planning experience under the UNDP/GEF project “Supporting sustainable land management in steppe and semi-arid zones through integrated planning and Agri-environmental incentives” in Kazakhstan (2015-2020) :

- Setting up inter-sectorial Integrated Land Use Planning Committees (ILUPCs). Considering that the land use planning is done at national level, these committees will include the participation of the national stakeholders with a mandate in land governance. The committees will entail representatives of: regional/district level authorities (khyalimliks) of the four targeted districts, regional and district environmental services, services of the socio-economic development at region/local level, representatives of daikhan associations and farmers associations. With the project support, the ILUPCs will be assisted by a group of technical experts and the project team, to facilitate a series of national and local workshops and round table meetings. Participatory land use planning will be including- and advocating for- the participation of women and representatives of women groups in the ILUPCs and the round table meetings at local levels. The project will facilitate a participatory process envisaged to underpin local land use planning and local natural resources use. The ILUPC will have at least four joint working meetings with the LDN Inter-Sectorial Stakeholders Expert Group to agree on methodologies and approaches necessary to implement integrated land use planning based on LDN hierarchy (prevent-reduce-restore degraded land).
- Development of a set of methodologies and criteria for the assessment of arable (irrigated and non-irrigated land), ecosystem services and rate and degree of land degradation in the four targeted districts (Turkmenbashi, Ruhubelent, Deinau and Darganata) aligned with LDN principles. The LDN and Land-use planning project teams will work together to ensure that the integrated land use planning tested in Dashuguz and Lebap in priority districts is centred around LDN principles and that it will contribute to the achievement of regional LDN targets.
- Data collection and identification of land and water resources and climate risks (climate and vulnerability assessments; landforms and soils; land cover; water resources) in the pilot districts considering geo-climatic conditions, natural ecosystems, natural and anthropogenic processes (e.g. areas vulnerable to/impacted by degradation, water and wind erosion, loss of humus content etc) and socio-economic (e.g. population, including age and gender distribution, settlements, current economic activities, access to markets). The project experts working under this output will coordinate the climate risks assessments for land resources with other climate risks assessments made for the water sector (Act 1.3.1.).
- Identification of land potential and land use types and practices using participatory planning methods that considers the needs of all the stakeholders, differentiated needs of men and women, and participation of vulnerable groups, local knowledge and development priorities in the districts and settlements (*gengeshliks*) and villages. The multi-disciplinary teams of experts will assess the potential impacts of different land use options, the assessment of land degradation trends and intensity within each land use type at district level (e.g. pastures/rangelands, forests, irrigated areas) and will identify potential counterbalancing measures within each land use type. This stage will be linked to the land degradation assessments and setting a mechanism for neutrality activities (Output 1.1. LDN target setting). The land use planning in the four pilot districts will be centred around the LDN “prevent-reduce-restore” hierarchy and will aim at contributing to the achievement of the LDN targets set for Lebap and Dashoguz regions. Data collection at this stage will be coordinated with the work of the specialists carrying out flora and fauna inventories and mapping of habitats under Component 2 to support a better PAs zoning, map out “biodiversity hotspots” and include the necessary PAs/KBAs/IBAs zoning provisions into the Integrated Land Use Plans (ILUPs).

²² UNCCD contact detail: Ms. Sara Minelli sminelli@unccd.int Programme Officer on Monitoring & Assessment. [https://www.unccd.int/news-events/geo-ldn-initiative-launches-competition-design-land-use-planning-software-land#:~:text=Land%20Degradation%20Neutrality%20\(LDN\)%20is,context%20of%20land%20use%20planning](https://www.unccd.int/news-events/geo-ldn-initiative-launches-competition-design-land-use-planning-software-land#:~:text=Land%20Degradation%20Neutrality%20(LDN)%20is,context%20of%20land%20use%20planning)

- Matching identified functional zones with economic priorities of rural settlements (*gengeshliks*) and villages in order to determine appropriate economic activities and scale for each land unit that will not deplete soil resources and will maintain integrity of ecosystems and ensure productivity for agricultural lands in the long term.
- Identification of existing and potential conflicts among different land-users and between land users and ecosystems, and development of measures to mitigate or eliminate such potential or existing conflicts, with proposed measures being agreed with stakeholders.
- Development of an LDN compatible GIS based Land Use Concept²³ and its dissemination to relevant government bodies. This is a planning/advisory document, that will contain recommendations -including GIS based maps- for the alignment of different types of land use planning with the development priorities at district/local settlements level with the potential ecosystems impact. The planning document will also contain conclusions of the land degradation assessment for each land use type and proposed counterbalancing measures (within the same land-use type). It is expected that the LDN compatible GIS based Land Use Concept will be formally approved and used by the government to improve the land use planning processes in the country within the context of Land Degradation Neutrality.
- Integration of land-use planning results into the existing schemes for rational use of land resources in the rural areas
- Assessment of the alignment with LDN principles and lessons learned, summarized to inform the next cycle of land use planning at district and local levels in the targeted areas.
- A monitoring and enforcement system for the integrated land use planning will be put in place, providing land inspectors with protocols to monitor LDN compatible ILUPs. The roles and responsibilities of the government institutions involved in territorial planning will be clearly identified and enforcement will be clearly defined based on their functional roles. The system will have sanctions attached, based on the current Land Code and the rules for rational land use, specifically the section on increasing soil fertility and environmental protection, and land use noncompliance.
- Finalization of the four Integrated Land Use Plans (ILUPs) and submission for formal approval by the relevant authorities. The ILUPs will be integrated with the existing district level land use planning. The formal approval of the ILUPs is an important step that the project will have to ensure and advocate for. The formal approval will ensure operationalisation of the ILUP at district level, increasing chances that LDN compatible integrated land use planning will be actually implemented. After approval of ILUPs, the plans become mandatory to all land users.
- Codifying experience and scaling up: The project will summarise the results of the targeted district-level land use planning exercise and will produce a “Manual with Guidelines on LDN compatible Integrated Land Use Planning” and an “*LDN compatible GIS based Land Use Concept*” to guide the integrated land use planning according to LDN principles. The project will develop these manuals in consultation with regional and national authorities who are expected to formally approve these manuals and guidelines for further institutionalisation and replication to other provinces.

58. **Output 1.2** Investment in community-based restoration of degraded arable and forest lands in 2 provinces, including saxaul planting in degraded areas; introduction of salt-tolerant crop varieties, and facilitating natural regeneration of tugai forest, with high potential for income for local communities.

59. Under this output the project will support land and forest restoration in high priority areas (“LDN hot spots”) identified under Output 1.1. with an end-of-project target of 10,000 ha to be restored. The best available practices for land restoration and more resilient livelihoods will be used and cost-effectiveness of each intervention will be ensured by the project experts and economists. A preliminary identification of potential location of the 10,000 hectares dedicated to restoration efforts (degraded irrigated land, pastures, forest lands) has been conducted during the PPG and these areas, and will be validated by the land degradation analysis during the regional LDN target setting process. Within the identified “LDN hotspots” the project will select the following measures and land types: (i) 4,700 ha of degraded irrigated areas to be restored (ii) desert forest landscape to be restored through saxaul planting planned on 5,000 ha (iii) support to natural regeneration of tugai forest planned to be demonstrated on 300 ha. The project will facilitate written agreements between the UNDP/IP and the respective daikhan associations and these agreements will include field monitoring fiches (developed by the project experts), to be used by the land managers, in coordination with local authorities as necessary, to regularly monitor the restoration success on the targeted 10,000 ha of degraded land. The results measured will be assessed by the midterm and final GEF evaluations.

²³ The LDN compatible GIS based land use concept will include landscape (natural and cultural), soil, wildlife, biome maps. Each map will include categories of importance (high, medium, low value) along with sensitivity analysis. The land use concept will balance development priorities (economic and social) with conservation objectives in the area given the current status of ecosystems (habitat status, degree of degradation and sensitivity, available ecosystem services).

60. **Activity 1.2.1: Restoration of degraded irrigated areas on 4,700 ha.** With the support of the project's experts, the proposed 4,700 ha of degraded irrigated and non-irrigated land to be subject to restoration will be validated, based on the identified "LDN hotspots" (under Output 1.1). The restoration methodology and 5-year workplans will be developed, in consultation with the private farmers managing the land that will include cost-effectiveness estimations of each intervention (ensured by the project experts and economists). The restoration measures will be preceded by a cost effectiveness analysis. The below proposed approaches should be considered:

61. Due to the exacerbating impact of climate change, the cultivation of trees, shrubs and herbaceous halophytes on salt resistant crops is of significant ecological importance in Turkmenistan, helping local communities adapt to these conditions. Halophytic plantations functions as biological drainage. On non-irrigated areas, for the creation of halophytic pasture phytocenoses, it is recommended to use the following species : *Salsola sp.*, *Climacoptera turcomanica*, orach (*Suaeda sp.*), saxaul (*Haloxylon sp.*), glasswort (*Halostachys sp.*) eurotia (*Ceratoides sp.*), kochia (*Kochia sp.*), mugwort (*Artemisia sp.*), halocharis (*Halocharys sp.*), halotamnus (*Halotamnus sp.*), and *Aeliropus sp.* on salt marches and takyr-type soils.

62. On irrigated areas, a majority of the return flows from irrigation is collected through extensive drainage networks and channelled away. This prevents or reduces the saline water from water logging or infiltrating into the ground water. The collected saline water called Collector Drainage Water could be used to grow halophytes. Experiments conducted previously in Turkmenistan, estimate the productivity of halophytes irrigated with water at 2500 mg/l mineralization level at yields from 4.5 to 21.1 tons per hectare dry weight. And from soil with 30 to 48t/ha salinity in the 0-100 cm layer, the halophytes remove an estimated at 9t/ha salts per year. For soil salinity between 8.4 to 21 t/ha, halophyte-alfalfa combinations (70%-30% or 50%-50%) remove 4.5 to 6.3 t/ha salts per year. Field trials conducted in Dashoguz district on sowing of eight halophyte species under no irrigation, saline water irrigation and freshwater irrigation showed that *Climacoptera turcomanica* is the most productive halophyte²⁴.

63. In addition, innovative phyto-melioration methods of marginal highly saline degraded land will be tested on approximately 20 ha in cooperation with the National Institute of Deserts, Flora and Fauna. Starting from the first year of implementation, the project will work with the staff of the Laboratory of Ecology of Forests and Pastures at the National Institute of Deserts, Flora and Fauna, to identify the best methodology for creating salinization resistant halophytic phytocenoses on secondary saline soils. The project will therefore test feasible and cost-effective models for restoration of degraded saline areas through involvement of food-feed salt/drought tolerant crops and forage and it will develop an "Integrated Bio-saline Agricultural model for sustainable and integrated use of marginal mineralised water resources and salt-affected soils" for scaling up of the good practices, to showcase the innovative restoration methods tested on 20 ha with a view of scaling up the results on similar degraded soil types.

64. The project will work together with the Ministry of Agriculture and Environmental Protection, State Committee of Water resources, local authorities of targeted districts and with the daikhan associations and private farmers to support planning for the restoration of degraded irrigated areas. This work will be also supported through performance-based grants to farmers who will participate in the project's restoration activities, using only demonstrated cost-effective measures (further described under Output 2.3). The project's experts and technical staff of the National Institute of Deserts, Flora and Fauna will identify/test innovative ways to create halophytic pastures and reclaim degraded saline arable land, through demonstrated cost-effective measures that could be further scaled up.

65. **Activity 1.2.2: Restoration of 5,400 degraded desert saxaul forest.** During the PPG phase, the preliminary selection of the targeted 5,700 degraded saxaul forest ecosystem has been conducted in consultation with local authorities in both provinces and these are presented under Annex 6 Targeted Landscape Profile. The proposed sites have been preliminary considered due to the proximity to KBAs/IBAs to reduce salinization and degradation of the soil and will be implemented in coordination with Output 2.1/Activity 2.1.1. The final validation of the selected sites will be aided by the analysis of the land degradation under Activity 1.1.4. and will be selected based on the cost-effectiveness estimations of each intervention (ensured by the project experts and economists).

66. The proposed sites are as follows: (i) In Dashoguz province (Ruhubelent district) south of Zengibaba, Goyungyrlan KBA/IBA. The area is approximately 4,150 ha with shallow sands. (ii) in Lebap province, Deinau district, on north-western part of Kattashor, Kattashor-Rakhmankol, select 1,050 ha of small hilly sands. These will be validated by expert mapping and georeferenced data. The project's partners are the local authorities, Dashoguz and Lebap provinces forestry enterprises, the local environmental protection departments of the Ministry of Agriculture and Environmental Protection in

²⁴ <http://managementjournal.usamv.ro/pdf/vol.XIII/Art62.pdf>

Turkmenistan, local farmers leasing the land and the staff of Gaplanyr and Amudarya State Nature Reserves. The project will use GEF resources to provide the technical expertise necessary for the development of the forest restoration 5-year Work plan covering the 5,400 ha of saxaul forests, support to the setting up of a native saxaul nursery, procurement of biological materials and partially off-setting the watering costs. The project's field coordinators (who will also ensure implementation of social and environmental safeguards) will work with the national partners and provide coaching on the applicable national legislation and UNDP safeguards, ensuring that the works (that are either under the project's direct implementation or conducted by the national partners,) implemented by third party subcontractors, are applying the national legislation and UNDP safeguards.

67. It is recommended to carry out the restoration of desert saxaul forests on shallow hilly or shallow sands that are not completely devoid of natural vegetation. For planting, it is recommended to use three-year-old seedlings of white saxaul and black saxaul, grown in special tree nurseries. The seedlings will be planted in pre-prepared holes of 50-60 cm, and 40-50 cm in diameter. The distance between plants should be approximately 4-5 meters. The length of the root system of freshly dug seedlings should be at least 40 cm. It is advisable to water the plants on the day of planting, making provisions for approximately 10 litres of water for each plant. In the first 2-3 years, the area should be protected from grazing. For the areas with clay soils (takyr-type) in the inter-ridge depressions, moisture -accumulating furrows should be cut for planting black saxaul and seedlings are recommended to be planted in holes along the edge of the furrow.

68. Within the framework of the National Forest Programme of Turkmenistan from 2013 till present, restoration of saxaul forest areas in Dashoguz (vicinity of Botendag) has been carried out to mitigate dust and sandstorms generated in the area of the former Aral Sea bed, and approximately 20,000 ha having been restored to date. However, due to the lack of sufficient precipitation (rainfall not exceeding 80 mm) the plant survival depend on the capacity to ensure and monitor regular watering and replanting, as necessary. Taking in consideration this experience, the project will work with the Dashoguz Department of Environmental Protection to support the setting up of a nursery for native saxaul seedlings with a capacity of 3,000 seedlings per year, which will enable planting of approximately 2,000 ha annually.

69. The project will be co-financing several activities such as: site selection, fencing, sowing saxaul seeds and organization of irrigation (provision of water pumps, construction of wells), protection and further assistance to care and transplanting seedlings into the field. The recommended 5-year work plan will have the following elements: (i) 1st year: organization and coordination with the Dashoguz Department of Environmental Protection for the validation of the proposed site/selection of site. (ii) 2nd year: organization of nursery and introduction of sustainable practices for cultivation of saxaul; (iii) 3rd year: monitoring and evaluation (identification of gaps, risks and barriers); (iv) 4th year: demonstration of results and organization of planting of nursery seedlings; (v) 5th year: main findings and recommendations at the site collected in a Guidelines (Brochure/Manual) good practices in the restoration of saxaul ecosystems. The Manual will contain a compilation of good practices for afforestation and restoration of saxaul ecosystems and will include the results and case studies tested by the project disseminated to local farmers, decision makers and through available KM platforms such as WOCAT.

70. ***Activity 1.2.3: Restoration of 300 ha of tugai forest.*** The total area of tugai ecosystem in Turkmenistan is estimated at 26.2 thousand hectares, excluding the riparian tugai on the territory of the Amudarya State Nature Reserve (of approximately 6.5 thousand hectares). The forest land in Turkmenistan is under the ownership and management of the State Forest Fund. The project targeted tugai areas are located in Lebap province, near Gorelde portion of the Amudarya State Nature Reserve in Darganata district. The project will work with the State Forest Fund and Amudarya State Nature Reserve staff to implement restoration measures consisting in (i) assisted regeneration (i.e. accelerating successional processes by removing barriers to natural forest regeneration such as grazing or wood harvesting) and (ii) conventional reforestation by planting seedlings in open areas. Although the tugai forests located within the Amudarya State Natural Reserve are protected in accordance with the Protected Areas law, the lack of buffer areas and lack of connectivity of tugai tickets (some of which are outside the borders of the reserve) renders the tugai vulnerable to anthropogenic pressure. The project's field coordinators (who will ensure that the environmental and social safeguards are implemented) will work with the national partners and provide coaching on the applicable national legislation and UNDP safeguards.

71. The selected site of 300 ha, is currently allotted for temporary use, for irrigated farming. During the PPG stage, the meetings with the local authorities and local farmers have secured a principle agreement to swap this tugai area, which is currently farmed, with another arable area that will be restored with the project's support. The project will therefore restore a degraded site of arable land of equal size that will be allotted for farming, together with local farmers, in exchange of the selected 300 ha tugai areas near Gorelde. The 300 ha of tugai area will be included within the perimeter of the Amudarya State Nature Reserve and will be protected from grazing or wood harvesting. In addition, with the project support and with seedlings provided by the Lebap forestry enterprise, the project will implement reforestation of open areas with tugai forest woody species (poplar, willow). The project will develop field monitoring fiches to regularly monitor the regeneration

success. It is expected that the selected forest areas will regenerate in a period of 5-6 years (provided that they will be included in the Amudarya Reserve boundaries and will be protected by domestic livestock grazing and illegal logging). The regeneration will be faster in case of forest patching by planting tugai forest woody plants seedlings on open areas.

72. **Activity 1.2.4 Promoting innovation in support of LDN achievement:** An Innovation Challenge will be organized, based on UNDP rules and procedures for Innovation Challenges, to promote innovative business solutions, innovative technologies, policies, regulations, and financial instruments aiming at improving land governance and reversing land degradation. The Innovation Challenge, could explore solutions to further adapt (as necessary) the Innovative Land Use Planning software, promoted by UNCCD through open source data, as a result of the recent GEO-LDN Technology Innovation Competition (Act. 1.1.5). The proposed Innovation Challenge is aligned with the government's priorities under the National Programme for Socio Economic Development of Turkmenistan (2011-2030) and with the UNDP priorities under the Country Programme Document (CPD) 2021-2025, particularly aimed at improving sustainable agricultural practices, technical knowledge on sustainable land and water management sustaining resilient livelihoods. The project will select a Responsible Party for the organization of the contest, approved by the Project Board and will set up a Task Force for the evaluation of the proposals.

73. The next step is to develop an Innovation Challenge Manual based on UNDP promoted principles in addressing an Innovation Challenge: (i) Consistency with the Development outcomes of the UNDP Country Programme Document (ii) Identification of the problems to be solved (iii) Clear Rationale and Design for the Challenge developed and agreed by the Project Board (iv) Management arrangements clearly identified (v) Beneficiary-Centered Context-Appropriate and Solution-Focused process, promoting innovative solutions that will yield ecological and social benefits, and are addressing the needs of end users and beneficiaries in Turkmenistan (vi) Financially Sustainable and Scalable with viable solutions, available for sharing and building on technologies that are adaptable to various contexts. (vii) Fair, Open, Transparent, and Inclusive promoting innovative ideas that must be opened to all entities, and to all stakeholders and deploy transparent and accessible approaches. The contest will be broadly advertised in the media and through the internet supported platforms and through the project's advocacy events and through the Union of Industrialists and Entrepreneurs platforms. The Concepts could be submitted by public or private entities, private companies including start-ups, NGOs/CSOs, academic institutions. The aim is to promote innovative strategies for integrated land-water use in Turkmenistan that will stop and reverse land degradation and will improve local livelihoods. The innovation prizes will be of maximum 10,000 USD per winning proposal, and the 4 most promising innovative proposals will be pitched to potential investors and international donors for further financing in view of upscaling and replication.

74. **Output 1.3.** Efficient water management of irrigated land in four priority districts, including: maintenance of water management infrastructure, operationalization of multi-stakeholder Water User Groups (involving local communities), introduction of best practice in irrigation technologies.

75. The project's work under this output will result in 100,000 ha of irrigated land under sustainable water management planning in the four targeted districts of the two selected provinces. The wise use of water resources is crucial in a country so highly vulnerable to climate change as Turkmenistan, where water insecurity is expected to become more acute. The projected climate change impact will result in an increase in average annual temperatures, reduction in annual average rainfall and 10-15% reduction of Amudarya River flow rated. The project's focus on sustainable water management at farm level and advocacy for a fair allocation of water among multiple users including the allocation of minimum ecological flow to lakes and wetlands will aim at addressing drivers of land degradation and water scarcity exacerbated by climate change. The Basin Water Organization "Amu Darya" provides for 3.3 million ha of irrigation. The total irrigated areas in the two provinces are covering 734,850 ha of which 336,000 ha in Lebap province and 352,000 in Dashoguz province, mostly for cultivation of state order crops (cotton, wheat) and fruits and vegetables, which are cultivated in oases under irrigation. Water losses are between 57% and 58% in S. Turkmenbashi and Ruhubelent districts (Dashoguz) and 30% and 41% in Darganata and Deinau districts (Lebap). The water wastage occurs due to the irrigation canals placed in native soil or lined with earth – which can have seepage water losses, absence of metering tools, insufficient equipment to apply modern irrigation methods and lack of knowledge on modern irrigation practices. In the selected areas, the project will support interventions at farm level working with the Water Users Groups (WUGs), farmers associations, farmers entrepreneurs and local authorities.

76. The planned activities include small scale repairs or improvements of the water management infrastructure (e.g. pumps, canals) and the application of international best practices, innovative technologies for water saving irrigation and crop resilience techniques. The areas targeted by the project is approximately 100,000 irrigated land distributed among the four districts (S. Turkmenbashi, Ruhubelent, Darganata and Deinau); these areas have been preliminarily selected during the PPG stage, in consultation with local authorities and daikhan associations, based on their proximity of Gaplankyr State Nature

Reserve (Dashoguz province) and Amudarya State Nature Reserve (in Lebap province), reduced efficiency of water management at farm level, land degradation including secondary salinization and potential of demonstrating alignment with Integrated Water Management Resources (IWRM) principles. In Lebap province, Deinau district, the project will work with the State Committee on Water Resources Local Production Department “Berzensuwarlyshulgamy” managing Berzen water irrigation system, which is considered to be more evolved and using basin level planning approaches. The preliminary selected irrigated area is larger in Deinau district due to a more extensive irrigation system, compared to Darganata district. In Darganata, most of the irrigation water comes from “Kranch Han yap” irrigation system and the total irrigated areas are less than in Deinau. In Dashoguz province, the selected sites are more or less proportionate (in terms of size) and the project will work with the district level water production departments “Ruhubelentsuvkhozhalyk” and “Turkmenbashisuvkhozhalyk” and with the water management of the irrigation system in the areas selected (e.g. Boz yap; Yartygala yap).

77. The sites have been preliminarily selected at PPG stage (presented in Annex 6 Targeted Landscape Profile) based on the discussions with local district authorities, and interest coming from several daikhan associations (i.e. Ak Altyn in Turkmenbashi; Ashyk Aidyn in Ruhubelent; Kabakly and Taze Yurt in Deinau and Lebap in Darganata district) and will be validated at the inception stage with consensus with the same or with new daikhan associations (depending on the results of the re-structuring of the daikhan associations on-going since 2020) and are located as follows: (1)In Lebap province, in Deinau district, there are 43,711.55 ha irrigated area selected around KBA/IBA Ketteshor-Ramankol; (2)In Lebap province, in Darganata district, the total irrigated areas are 6,436.89 ha (as the irrigation system is poorly developed and irrigated areas are covering only 8,200 ha); the sites are near Amudarya State Nature Reserve (Gorelde area). (3)In Dashoguz province, in Turkmenbashi district, the irrigated areas selected cover 20,324.27 ha; in the proximity of the borders of Sarygamish and Shasenem Sanctuaries KBAs/IBAs. (4) In Dashoguz province, in Ruhubelent district, the irrigated areas selected cover 29,905.34 ha is in the production zones around Sarygamish Sanctuary KBA/IBA.

78. In the selected districts, the project will actively involve the staff of State Committee on Water Resources (national level decision makers) including the province level sub-divisions (Production Departments) of “Dashoguzsuvkhozhalyk” and “Lebapsuvkhozhalyk,” as well as the water management entities operating the Tuyamuyun reservoir (partially represented by Uzbek authorities), the two large irrigation canals (Amu-Bukhara and Karshi) and two large drainage canals (“Makhankulskiy” and “Yuzhny”). At the same time, BWO “Amu Darya”, being an interstate organization (and including water specialists from both countries), performs monitoring, distribution, and control of functions (including the use of water intake limits by countries and ecological flows) and will be included in the consultations. The water users (WUAs)/ Water Users Groups (WUGs), farmers’ associations, private entrepreneurs, daikhan associations representatives, local branches of the Ministry of Agriculture and Environmental Protection, the Union of Industrialists and Entrepreneurs and IFAS will be involved in the project activities at every stage of integrated water management planning on approximately 100,000 ha of irrigated cropland (with potential of up-scaling the good practices on the 734,850 ha of irrigated land of the two provinces in Lebap and Dashoguz).

79. Harmonization of water management solutions between Turkmenistan and Uzbekistan is extremely important and activities under this Output will include video conferences facilitated by the project and national representatives in IFAS with specialists from both countries, in close coordination with the State Committee on Water Resources and Ministry of Foreign Affairs and in cooperation with the Research Department of the Water Design Institute “Turkmenusulymtaslama”. A field trip of 10 water specialists to Uzbekistan (representatives of the management of the shared hydrotechnical facilities, State Committee on Water Resources, and research institutes) will be further organized by the project, in order to share good practices and consult on the proposed solutions in view of harmonization of sustainable water management measures in Amudarya River Basin (middle and lower reaches).

80. The project will seek to actively include the participation of the deputy minister of the Ministry of Agriculture and Environmental Protection and the staff of the State Committee on Water Resources in all stages of the project, with the expectation that the project supported Integrated Water Management Plans and all the recommendations and guidelines will be formally approved and implemented and scaled up at district levels. Regulatory amendments to the Water Code will be developed by the project, in order to include the definition of water depended lakes/wetlands as Water objects in the Law and embed provisions for mandatory minimum ecological flows. Recommendations for decision makers and draft Inter-institutional Agreement to enable a more equilibrate allocation of water among multiple water users and increase of water release to lakes and wetlands while reducing water waste at farm level will be drafted (Act. 1.3.1). These measures will be submitted for approval by the State Committee on Water Resources and Ministry of Environment and Agriculture.

81. ***Activity 1.3.1 Development of Integrated Water Management Plans*** and practical recommendations for improved water allocation among multiple water users through the following stages, aligned with the basin principles:

- Setting up an Integrated Water Management Planning Working Group supported by the project experts and including the State Committee on Water Resources (national level decision makers) including the province level sub-divisions (Production Departments) of “Dashoguzsuvkhohzalyk” and “Lebapsuvkhohzalyk”; the Local Project Steering Committees will increase local ownership of the project and will support the setup of the working group.
- Problem assessment including climate risk assessment: The project expert groups will initially conduct climate risk assessments on the water resources in the targeted districts in Dashoguz and Lebap provinces, taking into account the differentiated impact on vulnerable groups including women. A comprehensive review and analysis of the existing institutions involved in the water management sector, drafting recommendations for harmonised, inclusive Integrated Water Management resources (IWRM) based water governance is also envisaged at this stage. The problem assessment will cover both supply and drainage canals, irrigation and other on-farm management practices such as irrigation scheduling.
- Baseline analysis: Working with the State Committee on Water Resources and with the land-melioration expeditions, the project will collect and analyze data on the current water supply patterns and water use among different sectors, current needs of agriculture sector and volumes and timing of water releases, actual condition of collector-drainage network and soil salinization on irrigated lands in the targeted districts and on the targeted areas (100,000 ha).
- Completion of Baseline analysis and dissemination of the results to different stakeholders as widely as possible, including Uzbekistan water managers and the representatives of the Amudarya Water Organization²⁵ to ensure a critical feedback to the registered problems. The Baseline assessment will include: analysis of the growing demand of irrigation water; water use patterns and water wastage; water needs among different sectors and reconciliation; gender perspective- the differentiated water use and needs among men and women; water deficits and impact on water dependent ecosystems; water deficits under predicted climate change scenarios and highlighted vulnerability towards water scarcity (especially vulnerable are the women, youth and other marginalized communities or impoverished families among a community); analysis of soil salinity and humus content in the targeted areas through soil samples. In addition, hydroclimatic scenarios and water economic models (water supply scenarios for irrigated agriculture and biodiversity) will be analyzed to establish optimized water allocations among multiple users under different climate change scenario (it is recommended that the project uses the World Bank agreed BEAM)²⁶. The project will consider STAP's guidance on climate risk assessment (<http://www.stagef.org/stap-guidanceclimate-risk-screening>)
- Identification of solutions and consensus: Based on the problem assessment and prioritized climate risks assessments, several objectives and recommended actions will be identified and agreed within the Working Group and the project will facilitate consultation with the main stakeholders, with national and regional water management representatives including the water managers involved in the water allocation in Uzbekistan, aiming at securing consensus over proposed solutions. The prioritized climate risks will be followed by identification of SLM and adaptation measures that will address these risks and will consider unique risks by vulnerable groups including women. Clear measures for sustainable agricultural practices that will improve soil condition (and therefore will be compatible with the LDN regional targets) and will use water efficiently in irrigated areas will be identified; The technical proposals on irrigation system improvements, as well as analysis of benefits in terms of water conservation, energy conservation and land reclamation will be agreed upon.
- With the support of hydroclimatic models the project will analyze the economic and social impact of water availability under the different climate change induced scenarios. The project experts will develop various scenarios of water supply among water users and will assess the minimum ecological flows required to maintain the ecological integrity of IBAs/KBAs lakes and wetlands in (in coordination with Output 2.1). The Working Group will estimate the volumes of water savings likely to be generated after the implementation of the agreed measures on 100,000 ha and will estimate the water savings likely to be obtain by upscaling of the piloted measures on the 100,000 ha to the total irrigated areas at district level and at province level. The Working Group will draft a set of IWRM aligned Sustainable Water Management Recommendations for decision makers' approval and draft Inter-

²⁵ <http://www.icwc-aral.uz/bwoamu.htm>

²⁶ <https://ui.adsabs.harvard.edu/abs/2013EGUGA..15.8608R/abstract> and <https://www.oecd.org/countries/kazakhstan/strengthening-multi-purpose-water-infrastructure-in-shardara-mpwi-kazakhstan-9789264289628-en.htm>

institutional Agreement to enable a more equitable allocation of water among multiple water users and increase of water release to lakes and wetlands while reducing water waste at farm level. These measures will be submitted for the approval of the State Committee on Water Resources and Ministry of Agriculture and Environment Protection.

- Development of the Integrated Sustainable Water Management Plans in the four districts, covering 100,000 ha of irrigated areas, taking into account climate risks and aligned with LDN principles, will be formally approved by the national authorities and further implemented by State Committee on Water Resources (national level decision makers) including the province level sub-divisions (Production Departments) of “Dashoguzsuvkhohzalyk” and “Lebapsuvkhohzalyk,” and the daikhan associations and private farmers that are managing the lands. These plans will include financial justifications and proposed budgets, ultimately these plans are intended to serve as both technical and policy justification for state funds investment in each district. Each plan will contain a Monitoring mechanisms to trace the trends in water consumption and mitigate the risk of inadvertently using technologies that may end up increasing the use of water resources (Annex 5, SESP). The plans will include specific proposals for upscaling the measures piloted on 100,000 ha to the full scale of the province level. The Integrated Sustainable Water Management Plan will include on targeted 10,000 ha (out of these 100,000 ha of irrigated areas) distinct measures to ensure resilience to salinization by selection of salt and drought tolerant crops and crop rotation (in coordination with Activity 1.2.1) aiming at demonstrating an improvement in soil productivity targeting : (i) 15% reduction in soil salinity compared with baseline level; (ii) 15% reduction of water wastage compared to baseline level; (iii) humus content > 1.8. The project will demonstrate (under Act 1.3.3) the feasibility of these measures on approximately 100 ha, and the most feasible and cost effective measures could be further replicated (under Act 1.3.3). The experts from Academy of Science, Turkmen Agricultural Institute in Dashoguz, Research Institute on Agriculture, Water Design and Research Institute (Turkmensuwlymtaslama), Agricultural University in Ashgabat will be involved in the review the good practices to identify the best suitable and cost-effective farming methods and crop rotation and crop resilience to salinity measures for 10,000 ha of irrigated land, in consultation with the farmers and daikhan associations.

82. **Activity 1.3.2: Operationalization of Multi-Stakeholders Water Users Groups (WUGs)** The Integrated management of water resources can be achieved if stakeholders become part of decision-making process. The Water Code regulates the rights to increase participation of non-governmental organizations, citizens and local authorities in dealing with issues related to the use and protection of water resources (Art. 4,14-16,19,40). The project will build on the results of the previous Adaptation Fund (AF) funded Project “ Addressing climate risks to farming systems in Turkmenistan at national and community level” under which most of the work has been carried out with Water Users Groups²⁷. The final GEF evaluation of the Adaptation Fund (AF) project shows that “ the newly adopted Water Code includes articles that enable community-based management of water resources by expanding the authority over management of the water resources to Water Users Group (WUGs)/ Water Users Associations (WUAs). Among other rights, WUGs/WUAs become full-fledged participants of the agricultural sector, able to perform irrigation works and be paid. The Code also stipulates administrative and operations procedures to be put in place by the WUGs/WUAs to ensure their operations and rights. Amendments were also drafted to the Law "On Pastures" and adopted by the Government of Turkmenistan in 2015: the novelty here was on the provisions that allow creation of Groups of Shepherds in order to improve pasture management and reduce degradation of pastures”. The project will be working closely with all stakeholders to support government, natural resource management authorities and institutions to meet their obligations, and with resource user rights holders to claim their rights. (please see Annex 5, SESP Risk 5).

83. The project will work with the local authorities and daikhan associations and will establish 4 Water Users Groups (WUGs) in the 4 targeted districts, based on the Adaptation Fund WUG establishment Manual and Guidelines, and after the approval of local authorities and farmers association. The WUGs will be set up taking into consideration the water basin principles and management of irrigated areas around main irrigation systems e.g. Berzen Irrigation System in Deinau and Kranch Han yap in Darganata; Diyarbekir in Ruhubelent and Bo yap and Yartigala yap in Turkmenbashi . The exact selection

²⁷ **Water Users Group (WUG)** is a voluntary organization permitted under the Daikhan Farm structure (based on the corresponding law). It requires a Decree of the Chairman of the Daikhan Association to be effective. *Regulations' on WUG Management* have been prepared by the Adaptation Fund project “Addressing Risks to farming systems” in accordance with provisions of the Constitution, National Program of socio-economic development of Turkmenistan for the period of 2011-2030, National Strategy of Turkmenistan on Climate Change adopted in 2012, the Water Code of Turkmenistan (Article 1) and the Law of Turkmenistan 'On Farmers Unions' (2007) (Article 2; Article 3, Clause 3; Article 5, Clause 1; Article 6, Clause 3; Article 7; Clause 3; Article 8, Clauses #3, 4; Article 8-1, Clause 2. The new Water Code includes a notion of territorial WUGs - based on previously existing Brigades - 100 members on 250 hectares, with 50 percent women/men participation and based on shared resources and basin level water management.

of the daikhan associations and respective farms, as well as the irrigation system will be validated at the inception phase, in order to take into consideration, the daikhan associations re-organization process. After the identification/establishment of the WUGs the project will organize 8 training events to capacitate WUGs (and other farmers associations) with clear objectives, institutional capacity and management skills, training on water saving irrigation technologies such as: drip irrigation, flat irrigation, hosepipe, siphons, use of water measuring units to increase water efficiency, soil reclamation technologies, writing funding proposals, and bank applications in order to mobilize additional financing for irrigation improvements. The WUGs will be supported to write funding proposals and apply for financing under the grant mechanism of the project (Output 2.3) and for soft loans under the existing government's programme implemented by Daikhan Bank. In addition, the project will organize a number of on-demand 4 training workshops on land-water legislation (in conjunction with the other SLM/water management trainings), led by the project legal specialists and facilitated by the project local extension officers, in order to support farmers applications for long-term land leasing and mobilise additional soft loans for the implementation of SLM measures.

84. **Activity 1.3.3 Demonstration of best practices in irrigation technology and horticulture measures** These project-supported measures will be carried out based on the measures agreed under the Sustainable Water Management Plans in the selected locations and in the targeted districts. The Sustainable Water Management Plans will be formally approved, thereafter implemented and monitored with government funding.

85. The project will work with the Water Users Groups (WUGs) and local Water Production Departments at district level to support demonstration of different structural and non-structural measures envisaged under the Sustainable Water Management Plans (the rest of the measures will be financed by state funds). The selection of demonstration plots will be based on the criteria described under Activity 1.4.3. The selection of technology will be based on recommendation in the Sustainable Water Management Plans and the project's experts will further ensure monitoring of the selection and procurement of technology at the project's demonstration sites. This will ensure mitigation of potential risks of using irrigation technology or conducting improvement works that may lead to an increased used of water resources (Annex 5, SESP). There will be expectation of co-financing from private farmers (in the form of labor or other technical inputs). In addition, funds will be made available (under Output 2.3), based on performance-based grants proven cost effectiveness and ecological benefits. The measures supported by the project will have additional demonstrative purpose, promoting the good practices in water management and will be selected based on cost-effectiveness estimations of each intervention (ensured by the project experts and economists) and will include:

- Assisting the improvement and further development of the basin planning and management of the Deinau etrap Water Production system "Berzensuwarlyshulgamy", to enhance the condition of the Berzen Irrigation system. This will include: water measuring and water regulating devices such as the construction of 2 small water regulation structures on on-farm canals (with a flow rate of up to 1m³/s).
- Assisting the farmers with technical advice on crop simulation models, quantification of crop yield response to water, devising strategies to improve agricultural water management. Based on lessons learned from the UNDP/GEF project " Supporting climate resilient livelihoods in agricultural communities in drought prone areas of Turkmenistan" ; the FAO supported software *Aquacrop* will be further used in the targeted project areas, however other software may be explored according to farmers' needs.
- Restoration and canal repairs (10 km irrigation canal and 10 km drainage canal) in the targeted areas in Dashoguz and Lebap provinces, on 2 on-farm canals to facilitate the flow of an adequate volume of irrigation water.
- Carrying out anti-seepage measures on small local canals (with a flow rate of up to 0.75 m³ and a total length of 100 m lining by small concrete tiles and covering with thick polyethylene membrane (or polyvinyl or geomembrane coating); Land grading using laser equipment for the preparation of irrigated land.
- Planning and preparation of 100 ha of irrigated areas using laser leveling equipment for Turkmenbashi and Ruhubelent districts (Dashoguz province).
- Procurement of 4 drip irrigation technology equipment, on demonstration fields (on selected farmlands) in the 4 targeted districts, serving approximately 40 ha.
- Demonstration field of at least 20 ha marginal land in each district will be selected to carry out: cleaning and soil preparation (laser leveling) , planting salt tolerant species (in coordination with Output 1.2.); select demonstration field with water reuse technology in the irrigated areas (i.e. use of drainage water through mixing or desalinization)
- Good practices on crop resilience to salinization will be demonstrated on approximately 100 ha. The good results will be scaled up on 10,000 ha (under Activity 1.3.1). Examples of the potential measures that could be considered

are extracted from the available account of the best practices²⁸: (i) Alfalfa (*Medicago sativa*) planting on saline irrigated land will enrich the nitrogen content of the soil and after the second year, the hay can be used for livestock; crop rotation and selection of less water demanding crops will be applied; a feasible combination of *Climacoptera turcomanica* (or another halophyte) and alfalfa will be tested and scaled up (in coordination with Output 1.2); (ii) Sowing cotton at the bottom of irrigation furrows: this is proven successful, mainly because in the moderately saline irrigated areas the irrigation occurs mainly due to the capillary uplift of salts from furrows to the crest, whereas the bottom of the furrow remains non-saline and water can be saved (that was otherwise use for soil leaching). (iii) On marginal areas, sowing watermelons in loosened strips is a way to preserve soil moisture exacerbated by aridification of land and improves infiltration, prevents wind erosion, and improves vegetation cover. (iv) Establishing mini-strips during wheat sowing improves field levelling and allows to carry out vegetative irrigations only along the mini-strips providing uniformity of soil moisture and saving irrigation water (15-20%)- this technology is not applicable in sandy and stony soils though.

- Apart from the trainings under Activity 1.3.2, the project will further organize 4 Farmers Field Schools and 8 seminars with students and teachers at Agricultural Colleges. The Farmers Field Schools will be organized at the demonstration sites.
- The Manual on Best practices in Irrigation and Crop Resilience to Salinity demonstrated on 100 ha and scaled up on 10,000 ha of cropland, in the selected irrigated areas will be compiled and recommendations for scaling up of good practices will be developed and submitted for approval of the decision makers at the Ministry of Agriculture and Environment Protection and the State Committee on Water Resources. The recommendations will include assessments of socio-economic benefits obtained after the application of these measures, and recommended economic incentives to be introduced for farmers, to support wider uptake of these interventions.

86. The safeguards experts/company will conduct environmental and social screening and assessments aligned with the SES requirements for all the envisaged works under output 1.3, following applicable domestic policies and legislation and the requirements of UNDP SES. The project's field coordinators will work together with the specialized safeguards experts/company and will ensure that the risk mitigation measures are aligned with UNDP Enterprise Risk Management Policy and national legislation and that will be fully implemented and monitored. Some of the recommended risk mitigation measures at site will be included in the third party contracts for example: (i) ensuring proper equipment installation by manufacturers at the site (ii) ensuring that people are using safe work practices especially when electrical contacts are involved; (iii) safe bypass operation roads between settlements or farms along canal dams; (iv) the operational road will be organized with minimum disturbance as close as possible to the terrain to preserve the natural landscape (v) providing temporary fish bypass canals in areas where hydraulic repair works are implemented. The project field coordinators and specialized experts will work with the contractors to ensure that national working standards (Labor Code) are respected and appropriate wages will be paid per assigned task and no child labor will be employed. Security and safety standards will also be respected and enforced.

87. Output 1.4 Sustainable pasture management regimes in 4 priority districts introduced raising productivity of livestock management for local communities, including: sustainable pasture management plans focusing on rotational grazing and efficient and sustainable livestock watering infrastructure.

88. The project's work under this output will focus on promoting sustainable pasture management in the surrounding geographies of the important KBAs/IBAs and Protected areas. The project will initially develop climate risk and vulnerability assessments in selected communities to identify priority SLM and adaptation solutions. In Turkmenistan, the pasture rotation is the main measure of organizing pasture farming and the scientific experiments have all concluded that fodder plants should be maintained in a proportion of not less than 50% for maintaining pasture productivity. However currently, the pastures are used year-round and overgrazing is the common norm, pasture carrying capacity is exceeded several times, either due to lack of knowledge of grazing capacity or due to disregard of grazing norms and inclination towards quick financial benefits. The work under this output will support shepherds associations, private livestock farmers and local authorities, develop sustainable pasture management on approximately 500,000 ha of pastures in the targeted provinces

²⁸ Technologies and approaches on Sustainable Land Management in central Asia (Publication compiled with the support of the Project Knowledge Management in Central Asian Countries Initiative for Land Management (CACILM) Phase II, the International Center for Agricultural research in Dry Areas (ICARDA)- WOCAT <https://www.wocat.net/library/media/97/>

of Lebap and Dashoguz where preliminary areas were selected during the PPG stage, based on their proximity/ or overlapping with KBAs/IBAs, affected by overgrazing, and not benefiting to date from any protection form.

89. The project will demonstrate cost effectiveness of sustainable pasture management regimes, building on previous Economics of Land Degradation (ELD) initiative's assessments in the country which estimates that an alternative sustainable pasture management regime would lead to benefits worth US\$ 440 million in approximately 8 years. The cost of the land value could increase from US\$ 35 per hectare to US\$ 64 per hectare under sustainable land use regimes²⁹. Cooperation with research institutes is important, notably the National Institute of Deserts, Flora and Fauna (NIDFF) and the Scientific Information Centre (SIC) of the Interstate Commission for Sustainable Development (ICSD) of the International Fund for Saving the Aral Sea (IFAS). The staff of NIDFF and the SIC of the ICSD/IFAs will be involved in providing technical expertise and in delivery of trainings workshops. The project experts will include cost-effectiveness estimations of each intervention. In addition, the project will cooperate with the Design Institute "Turkmengiprozem" which maintains accounting, assessment and mapping of irrigated and pasture lands. The pasture management plans will be linked with government investment plans. The project will work the district authorities to create/strengthen Pasture Monitoring Committees under their mandate or under State Livestock Farms mandate (including pasture users and tenants, representatives of other livestock owners, local community, ministries and agencies responsible for the livestock sector, khyakimliks and gengeshes). For the implementation of field measures the project will cooperate with Dashoguz and Lebap province forestry enterprises and the environmental protection departments of the Ministry of Agriculture and Environmental Protection in Turkmenistan.

90. **Activity 1.4.1 Sustainable management regimes of 500,000 ha of pasture areas.** The proposed areas will be mapped and the actual areas validated in coordination with expert mapping and land use planning work under Output 1.1. The proposed pasture areas have been preliminarily selected at PPG stage, presented in Annex 6 (Targeted Landscape Profile). In Dashoguz province, Saparmurat Turkmenbashi district, the pasture area selected covers 153,566 hectares. These areas are located in the buffer zone of Gaplangyr State Nature Reserve adjacent to Gulantakyr area and partly overlapping with Shasenem Sanctuary. In the sanctuaries there little or no regulations enforced, and usually natural resources (pastures, medicinal herbs etc.) are over exploited. The project will work with local farmers, shepherds and private entrepreneurs and with the PA management staff to plan sustainable natural resources use regimes. In Ruhubelent district the selected pasture area covers 103,566 hectares and are located in and around Shasenem Sanctuary, and around two KBAs Goyungyrlan/Zengibaba and Akjagaya. In Dashoguz province therefore, the overall targeted areas are approximately 257,132 hectares, of which 149,578 hectares are represented by pastures of sandy desert on ridge-hilly desert-sandy soils, the remaining 107,554 hectares are pastures of gypsum desert on gray-brown desert soils of the takyr plains

91. In Lebap province, in Deinau district, the pasture areas of 48,170 hectares are on Gabakly farm, adjacent to Amudarya State Nature Reserve Nargiz and Gabakly areas; in Dovletli district a pasture area of 176,436 hectares was selected partially overlapping the KBA/IBA Ketteshor-Ramankol. In Khojambaz district a pasture area of 74,786 hectares was selected, located in the surroundings of KBAs/IBAs Soltandag-Gyzylburun and Eradjy and around Repetek State Nature Reserve. Due to the fact that Repetek State Nature Reserve does not have a proper zoning identified and delineated on the ground, unsustainable agricultural practices (chiefly overgrazing) are continuously affecting biodiversity, as small livestock and camels are kept almost all year round on distant desert sandy pastures in the proximity of KBAs/IBAs. The targeted pasture areas in Lebap province will cover approximately 299,392 hectares, of which 181,669 hectares are pastures of sandy desert on ridge-hilly desert-sandy soils, the remaining 117,723 hectares are a combination of pastures of sandy and clay deserts.

92. For Turkmenistan conditions, three main types of pasture rotations are deemed feasible and will be applied by the project : 1) Pasture rotation with an annual alternation of grazing, consistently in all seasons of the year. With this scheme, the same pasture area is grazed in the first year - in the spring, in the second year - in the summer, in the third year - in the fall and in the fourth year - in the winter. The introduction of this scheme is possible only on pastures with available composition of the forage vegetation throughout the year; 2) Pasture rotation with alternating spring season with winter, and summer with autumn. In this case, one part of the pasture area is used in spring and winter, and the other in summer and autumn. 3) Pasture rotation with alternating spring-summer and autumn-winter seasons. This scheme is acceptable in cases where a part of the pastures on the farm in terms of the composition of fodder plants, especially the quality of water in the existing wells, cannot be used in a period other than during the autumn-winter season.

²⁹ http://www.eld-initiative.org/fileadmin/pdf/Country_Policy_Brief_-_Turkmenistan_WEB.pdf

93. The project will support gender sensitive pasture management plans for 500,000 ha through the following proposed steps (some pasture areas will be under more intensive measures than others):

- Inventory of pastures in the selected project sites, assessment of the pasture use patterns and seasonal distribution of livestock; drawing maps based on surveys results; : (i) Validation and delineation of proposed targeted pasture areas, in coordination with the integrated land use planning in targeted districts (Output 1.1.) using remote sensing data and aerial surveys; GIS-supported mapping of pastureland; validation of daikhan farms and other private livestock farmers managing the land, after the reorganization of the current daikhan farms; securing partnerships (ii) Botanical inventories of flora composition (using sample units (plots) surveys on demonstration areas and plotless sampling methods for the same types of pastures), and assessment of the rates and degree of degradation (inventory of pastureland during two years in the spring and autumn seasons); (iii) Identification of basic infrastructure barriers such as the lack of watering infrastructure, lack of shading infrastructure for livestock; (iv) Assessments of soil condition and presence of native forest shelterbelts; (v) Gender sensitive assessment of socio-economic factors (including the differentiated ways men and women use and have access to natural resources, highlighting challenges faced by women, youth and other vulnerable groups) and verification of the available suitable pasture management technologies.
- Mapping sensitive areas and clarification of regulations on pasture allocation and norms on carrying capacities for each pasture type, livestock and forage guidelines.
- Establishment of the appropriate pasture grazing carrying capacity methodology will be developed, tested and promoted with transparent and well documented analysis.
- Validating and fine tuning the proposed pasture rotation measures, alignment with the integrated LDN compatible land use planning and mapping under Output 1.1. The selected pasture sites under the project scope will promote pasture management and grazing measures that will contribute towards preventing and reducing degradation in pasture areas.
- Planning for annual harvesting of fodder crops (as feasible) as agreed with the pasture users.
- Design and plan for agroforestry measures such as planting forest shelterbelts and areas of interconnection within biological corridors, maintaining or creating ecological connectivity in the PAs buffer zones.
- Planning for distribution of livestock manure in select areas of the landscape to increase soil fertility.
- Creation and maintenance of pastures plants, and potential seed nurseries with native species.
- Design a Pasture monitoring scheme (to be used by the pasture managers and users, with the support of local daihan farms and daikhan associations) with practical monitoring indicators and appropriate measures for environmental safeguards e.g. (i) adequate biodiversity assessments in order to respect the carrying capacity analysis and counteract potential increase of livestock on rehabilitated pastures; (ii) appropriate risk assessments conducted in case of seeding non-indigenous fodder plant species; (iii) adequate assessments prior to potential converting steppe ecosystem to fodder plots etc.

94. The project will develop the regulatory amendments to the Law on Pastures on the carrying capacity, leasing agreements and institutional arrangements for mandatory pasture monitoring (as described under *Act. 1.1.3*) and will work with the GIZ in order to seek ways to incorporate and build upon the existing draft bylaws and/or legal amendments drafted previously under the first phase of the GIZ supported project “Integrative and Climate Resilient land use in Central Asia”, as well as advocate together for the official approval of the necessary Law on Pasture bylaws. Apart from GIZ, the prospective partners for the project’s work on pastures are the district offices of the Land Resource Service, the National Institute of Deserts, Flora and Fauna, the Türkmenyertaslama Design Institute (Turkmengiprozem) of the Ministry of Agriculture and Environmental Protection, local authorities at district and province levels, forestry enterprises, animal husbandry farms and private farmers. The project District Committees will facilitate the integration of these project-supported sustainable pasture management regimes with the exiting government plans for investments in pasture areas at local level.

95. Overall, the project will promote land degradation neutrality compatible approaches, through agreements among pasture users and consensus, contributing towards “land degradation neutrality” i.e. to conserve pastures that are healthy and improve those pastures that are showing different degrees of degradation. Involving communities in this “neutrality” discussion allows them to visualize and understand how ecosystem services flow through the different land systems, and it is expected that LDN and the need for a landscape-scale ecosystem-based approach will be better understood. The project will organize at least 8 training workshops on Sustainable Land Management (SLM) measure, including topics such as: i) Basic steps to successful rural entrepreneurship, farms business models, promotion of women entrepreneurs, responsible investments in agriculture and ecotourism (iii) Measures to address land degradation through integrated water-land management (iii) Step by step sustainable pasture management and agroforestry (iv) Wetland ecosystem services and

livelihoods, (v) LDN and sustainable land use planning (vi) Innovative land restoration in remote marginal areas, LDN compatible crop rotation in irrigated land to restore soil productivity. Training on SLM measures will be delivered in the context of achieving Land Degradation Neutrality (LDN). The project will be working closely with all stakeholders to support government, natural resource management authorities and institutions to meet their obligations, and with resource user rights holders to claim their rights. (please see Annex 5, SESP Risk 5)

96. **Activity 1.4.2 Restoration of 50,000 ha of degraded pastures** The preliminarily selected areas are located around the KBAs/IBAs and protected areas, around settlements and water wells, where grazing is intensive and land is very degraded. The lack of water infrastructure on pasture areas located further away from settlements is one of the main problems that impede the use of different pastures and application of rotational grazing. In Dashoguz province, in Saparmurat Turkmenbashi district, the selected degraded pastures are covering a total area of 20,061 hectares, of which 3,092 hectares are pastures of the sandy desert; 231 hectares are gypsum desert pastures (around Akgaya KBA/IBA); 16,738 hectares includes pastures of a combination of sandy and clay deserts (in and around Shasenem Sanctuary KBA/IBA and Gaplanyr State Nature Reserve (Gulantakyr area), and partially overlapping with Sarygamish Sanctuary (in the north). In Ruhubelent district, the degraded pastures are located around the same PAs and KBAs/IBAs, i.e. in the proximity of Gaplanyr State Nature Reserve Gulantakyr area, on a total area of 1,148 hectares, of which 594 hectares are pastures of the sandy desert; then, 554 ha - gypsum desert pastures around Akgaya KBA/IBA. In total the proposed targeted areas in Dashoguz province cover 21,209 hectares. The main agricultural activity is distant pasture grazing, animal husbandry, fishing in Sarygamish and hunting, bordering the Gaplanyr reserve.

97. In Lebap province, in Darganata district, the selected degraded pastures cover an area of 13,822 hectares south from the Pytniak upland and Soltanjar-Duyebayun KBA/IBA and in the surrounding of Amudarya Stare reserve (Gorelde KBA/IBA). The territory is a complex of plants and animals inhabiting sandy deserts; overgrazing and irrigation agriculture around settlements are contributing to land degradation and disturbances of key habitats and Red Book species. In Deinau etrap the degraded pastures cover an area of 16,315 hectares, north from Kettenshor Romankol KBA/IBA and Tallymerjen KBA/IBA. In total the province selected pasture areas are approximately 30,137 hectares of sandy and clay desert pastures. Tallymerjen is among the most threatened KBA/IBA by anthropogenic activities (from overgrazing and illegal hunting to construction of roads and irrigation). The project will work with local (district) authorities and daikhan associations and private entrepreneurs to promote sustainable pasture management. The activities will be implemented in coordination with Output 2.3. promoting sustainable agricultural practices and ecological corridors around PAs, KBAs/IBAs.

98. In Dashoguz district, the selected areas for restoration are mainly pastures of sandy desert and a combination of sandy and clay deserts. Considering that the height (thickness) of the sandy ridges do not exceed 2-3 meters, to improve pastures in these areas, it is proposed to sow seeds and plant seedlings by strip plowing, leading to radical improvement of pastures. On highly degraded pastures of sandy desert, devoid of natural vegetation, it is better to use the method of surface improvements by over-seeding and planting seedlings without destroying the soil layer. On pastures of gypsum desert and on typical takyrs, it is recommended to use the method of cutting water and sand-accumulation furrows, followed by sowing seeds and planting seedlings.

99. In Lebap province, the selected areas are pastures of sandy desert with sandy ridges from 2 to 8 meters high. To restore these pastures, it is better to use the surface improvement method and use palletized seeds for sowing. Heavy crumbs-pellets are obtained by putting seeds into a thick solution of sand and clay (manure), then the seeds are dried. Pellets are scattered manually because barkhan sands are impassable for machinery. Palletized seeds are not easily blown away and clay and manure ensure feeding in the first weeks of their life. Good results are obtained from planting seedlings of *Haloxylon persicum*, *Salsola paltetzkiiana* and cuttings of *Calligonum sp*. Radical improvement may be obtained where areas are flat and machines can be used. The most suitable sowing rates that will ensure seedlings with adequate stand are: *Haloxylon aphyllum* (5kg/ha); *H. persicum* (6kg/ha), *Salsola paletzkiana* and *S. richteri* (12 kg/ha); *Kochia prostrata* (4kg/ha); *Artemisia kemrudica* (0.1-1 kg/ha); *Calligonum sp* (15 kg/ha); *Halothamnus turcomanica* (8kg/ha); grass plants (2-3 kg /ha)³⁰

100. The main project partners in these areas will be the local authorities at district level and daikhan associations as well as the private entrepreneurs who are managing these lands. The project will provide technical expertise for pasture management plans to reduce degradation and restore degraded pastures, including the identification of pasture restoration measures, support to procurement of seeds and other biological materials and improved watering infrastructure. The Pasture Management Plans and restoration measures will include a Monitoring Scheme tracking progress towards the

³⁰ "Desert problems and Desertification in Central Asia" A. Babaev et.al (Desert Research Institute, Turkmenistan); page 108

intended targets that are monitored through the project: (i) 50% vegetation cover increase observed on clay desert pastures (stable plant communities of black saxaul *Haloxylon aphyllum* and chogon *Aellenia subaphylla* formed on formerly bare takyr soil); (ii) 50% increase of vegetation cover observed on sandy pastures (suggested proportion: 30% shrubs; 60% semi-shrubs; 10% herbaceous vegetation); (iii) at least 30% of sown plants in generative growth stage by end of the project; (iv) 50% increase of distant pasture use.

101. The project will also support the refurbishment of 6 water wells, the construction of 4 new water wells and the construction of 2 new water harvesting facilities (“khaks” and “sardobas”) in each targeted district. The location of water facilities and wells will be selected based on optimum environment and socio-economic benefits scenario. The new and refurbished water facilities will be located on strategically selected areas, that will enable the use of distant pastures and the application of pasture rotation measures. The selection of intervention areas will be based on the land and water resources assessments that are conducted under Activity 1.1.4, Activity 1.1.5 and Activity 1.3.1. The water harvesting facilities refurbished or newly constructed will allow shepherds to manage their pastures sustainably and get further away from the highly degraded pastures (situated near settlement) and stay longer in the desert. The project will further support livestock farmers with the construction of basic shepherd and livestock shelters, installation of solar panels for the pumps operations. The watering points and wells envisaged to be built or refurbished are expected to be relatively shallow and based on current practice, EIA is not required for these activities. However, before the construction, the project experts (hydrologists) will coordinate with the specialists from state water body Turkmengeology to optimise the selection of the sites. In addition, the project will hire EIA/safeguards specialists (company) to carry out screening and assessments as needed, aligned with the SES requirements. The project field coordinators will work with the specialists and update the SESP.

102. **Activity 1.4.3 Demonstration of sustainable pasture management and reduced pasture degradation** The project will partner with private livestock farmers who are leasing and using pasture areas. The selected plots for direct demonstrations should amount to a total of 700-800 ha in each province (within the identified targeted areas in the 4 districts), deemed sufficient to demonstrate sustainable pasture management (pasture rotation) and reducing or restoring highly degraded pasture. These plots/pilot projects for direct demonstrations will be selected in coordination with the local authorities on several criteria: (i) severely degraded pastures; location in one of the “LDN hot spots” will be prioritized (ii) willingness to partner with the project and provide co-financing (iii) willingness to pilot innovative SLM measures such as: pasture management planning, rotational grazing, restoration of highly degraded pastures; wells refurbishment; development/implementation of sustainable grazing scheme (iv) commitment to sustain SLM after project end (v) openness to share experience and support Farmers Field Schools (vi) at least 30% of women and youth participation (vii) social and economic vulnerability of the participating farmers associations. The project will promote and support projects which show social and environmental impact and will promote participation of women, women farmers, women headed households, youth, veterans etc into project activities.

103. In addition, the project will set up a grant mechanism to support farmers restore their degraded pastures (the grant mechanisms is described under Output 2.3). In the first year, the project will select the areas and will invite private farmers to apply for grants and will organize initial training session on how to write the funding proposal, and how to calculate the cost effectiveness. The second year will be dedicated to provisions of seeds and planting materials, organization of trainings on the improvement and sustainable management of pastures, reforestation, organization of sowing and planting works, inventory of pasture territory, including geobotanical surveys, development of pasture rotation scheme, construction of a well for watering livestock. The third and fourth years will continue with the sowing and planting operations, organized cattle grazing in compliance with the required pasture rotation planning, study of the influence of seasonal cattle grazing on the conditions and species compositions of pasture vegetation dynamic. On the 5th year, there will be monitoring and evaluation, lessons learned and demonstration of results and ecological and economic benefits, dissemination of good practices on WOCAT and available FAO platforms, compilation of guidelines brochures in local languages, and a video documentary. This activity will be coordinated with Activity 1.2.2 and 1.2.3 (restoration of desert forests) as well as with Output 2.3. The project will organize 8 trainings on sustainable pasture and forest management including 4 Farmers Field Schools on pasture restoration (years 2-5). The proposed training topics could be included: legal and regulatory framework for pasture and forest use; pastures carrying capacity; regulations regarding use of pastures; measures to enhance productivity and sustainability of pasturelands; agroforestry; water and forage assessment for livestock in desert pastures; roles and responsibilities of grazing right holders/lessees in the effective management of pasturelands.

Component 2 Securing Critical ecosystems for Biodiversity and Ecosystem Services

104. The project’s work under Component 2 will focus on addressing direct drivers of biodiversity degradation, to protect globally important biodiversity, habitats, and species, through PAs system expansion and targeted support in strengthening

the management effectiveness of some of the key existing PAs. The project will use GEF resources for targeted investments in spatial and land use planning in the surrounding geographies of the PAs, as a critical step in ensuring that the PAs are well integrated in the sustainable management land use and agricultural practices, and that buffer zones and corridors will be appropriately mapped and delineated on the ground and that this information will be integrated into the LDN compatible spatial and land use planning under Output 1.1 . The project experts and project team will facilitate a series of workshops with local communities supporting awareness and knowledge creation among communities about PAs function, significance and potential. Additional awareness raising events, fairs, and exhibitions (under Component 3) will complement these efforts.

105. **Outcome 2** Secured biodiversity status in 1,077,554 ha PAs and local community supported ecological corridors covering 292,607 ha KBAs/IBAs in the Amudarya basin landscape, as evidenced by: non-deterioration of globally threatened species, including Egyptian vulture, Saker falcon, Dalmatian pelican, Houbara bustard, Cinereous vulture, Ferruginous duck. Management effectiveness increased for targeted protected areas from 20% to 40%. New protection mechanisms established covering additional 60,000 ha of currently unprotected KBAs, increasing PAs coverage of KBA are in the target landscape by approximately 5%.

106. The project aims to address the KBAs more specifically within the Amu Darya landscape, and the effective management of the PAs intended to conserve them. Turkmenistan's PA system is not yet extensive, but the strategic approach of this project is not to widely expand the national PA system, but rather to ensure that PAs currently existing within the Amu Darya landscape are better managed and well-integrated within the wider landscape. On the one hand it is important to ensure that PAs have effective management, and the capacity to implement the conservation actions necessary to protect their biodiversity. However, PAs cover less than 50% of the KBA territory targeted within this project, and it is therefore also necessary to ensure the sustainable use of resources within the buffer zones and corridors surrounding PAs.

107. Along with significant environmental benefits that the designation of new PAs and delineation of community endorsed ecological corridors will bring about, there could be potential risks. Potential subsequent restrictions/limitations of the use of natural resources may be at odd with the current agricultural practices of the local communities in project areas. The project will therefore re-assess, and implement measures to prevent avoid and/or minimize any potential risk that has been described in the SESP (Annex 5, SESP) and in the ESMF (annexed as a separate report). Meaningful stakeholders consultation mechanisms will be deployed, such as the Process Framework, Stakeholders Management Plan, Gender Action Plan and the UNDP/project level Grievance and Redress Mechanism. The selected project sites will be validated during the project inception phase, before the start of activities. The participatory stakeholders consultation process facilitated by the project, in order to validate the project sites and conclude partnerships with the land managers (e.g. Daikhan associations) will include analysis of the potential risks described in the SESP (Annex 5, SESP) and the ESMF (annexed as a separate report) and planning for implementation of risk mitigation measures.

108. **Output 2.1** Management effectiveness supported for 2 existing PAs including improved management, and targeted investments; support to local tourism potential to facilitate additional income generation for local communities at targeted PAs; control over illegal activities.

109. The project will focus on 2 State Nature Reserves Gaplanyr and Amudarya and their sanctuaries, covering 1,077,554 ha of protected areas. The Gaplanyr State Nature Reserve (with a total area of 275,735 ha) includes two wildlife sanctuaries (also KBAs/IBAs) Sarygamish State Nature Sanctuary (541,466 ha) and Shasenem State Nature Sanctuary (109,002 ha). The Amudarya State Nature Reserve (48,351 ha) also includes Kelif State Nature Sanctuary (103,000 ha) which is also a KBA/IBA. Initially, the PIF has included Koytendag State Nature Reserve and Repetek State Biosphere Reserve but these two reserves will be engaged only in the capacity development activities (please see Annex 12: Minute of the meeting with the MAEP officials on the targeted PAs). The project will make specific and targeted set of investments for each of the two targeted reserves and sanctuaries based on baseline METTs and capacity needs assessment conducted during the PPG, with the goal of addressing the most important needs and raising the level of their management effectiveness (as measured by the METT).

110. **Activity 2.1.1** Development of the Amudarya State Nature Reserve Management and Business Plan, improved zoning in PAs and support wild ungulates counting. In Amudarya State Nature Reserve, the impact of the anthropogenic pressure is a serious problem exacerbated by the climate change impact on the river flow, the reduction of which is leading to gradual disappearance of the tugai thickets and wildlife. Irrigated agriculture and overgrazing is destroying key habitats near the reserve. The reserve's territory includes three fragmented riparian sites (and tugai forests areas) along Amudarya river (approx. 170 km), hosting the Bukhara (tugai) deer, which makes it difficult to ensure its protection from poaching or intense agricultural encroachment. The reserve includes sanctuaries, where the collection of wood and medicinal herbs as well as grazing are not regulated. In the absence of a management plan and improved zoning, these areas are difficult to

manage. The project will therefore support basic management tools, such as the development of a Management and Business Plan for the Amudarya State Nature Reserve (and its Kelif State Nature Sanctuary) zoning and strengthening critical infrastructure to improve capacities for basic conservation and monitoring activities. The PA Zoning will be implemented in coordination with Output 1.1. and Output 2.3 and it will establish the limits of the acceptable use and development activities in the Amudarya State Nature Reserve and Kelif sanctuary, according to the form of the legal protection as well as legal justification for the inclusion of all fragmented tugai areas/KBAs (Nargiz, Gorelde and Gabakly) under the Reserve's protection regime. The project will also propose to adjust the size of the core area (as necessary) by calculating the ecological carrying capacity, analysing the optimum number of wildlife supported. The preparatory work will also include assessment of the watering infrastructure for the wild ungulates. Participatory planning methods will be used to raise awareness and to improve the understanding within the local communities about the function, management, potentials and significance of the PA. The PAs zoning will include multi stakeholders' participatory approaches to reconcile multiple uses and users' interests.

111. During the development of the Management Plan, with the project's support, local advisory committees (People Councils) will be set-up to facilitate consultations with local communities from surrounding villages of Gabakly, Uchkersen and Ispas (in Deinau district, near Nargiz site) and the villages of Akrobat (Farab district, near Gorelde site), the village of Khalkabat (Deinau district) and with the Lebab daikhan association (Darganata district). Particular emphasis will be placed on informing the local population about the existence and boundaries of the Amudarya State Nature Reserve and sanctuaries, its functions and benefits, and the importance of their participation in the development of PA management plan, ecological corridors and buffer areas and promotion of sustainable agricultural practices in buffer zones.

112. The Management/Business Plan and improved zoning arrangements of the Amudarya State Nature Reserve (including Kelif State Nature Sanctuary) and the necessary legal justifications, will be submitted for formal approval to the Ministry of Agriculture and Environment Protection. The Business Plan³¹ will contain several financing initiatives including PES schemes, based on existing economic valuation studies of biodiversity. The strengthened management capacity of the reserve will reduce the area of the tugai ecosystems exposed to severe anthropogenic threats and will stabilise key species population (as measured by METT) of Bukhara (tugai) deer (*Cervus elaphus bactrianus*) from 120 individuals to an envisaged 142-145 individuals during the project life time; and of the Goiterred gazelle (*Gazella subgutturosa*) from 79 individuals to 105 individuals. Increased protection status at KBAs/IBAs (Nargiz and Gorelde) will improve monitoring and stabilization of population of key species (migrating and wintering) such as the Dalmatian pelican (*Pelecanus crispus*), Swan goose (*Anser cygnoid*), European roller (*Coracias garrulus*) and of breeding species such as Eurasian eagle owl (*Bubo bubo*), Eurasian stone curlew (*Burhinus oedicnemus*), and Short-toed snake eagle (*Circaetus gallicus*).

113. In Gaplanyr State Nature Reserve, the proximity to border areas is hindering the monitoring of wild ungulates. Around the reserve, the private farmers are using distant pastures for their livestock nearly all year round and near Sarygamish lake there is a hunting ground bordering the sanctuary. Watering infrastructure for wildlife is insufficient. Salt dust transfer is affecting tugai areas and increases salinization of land. Overexploitation of natural resources in the sanctuaries (due to lack of quotas and weak legal enforcement of existing regulations) are contributing to the destruction of habitats. The project will work with the Gaplanyr Reserve staff and jointly with the Department of Environmental Protection and Hydrometeorology will support species inventories and two aerial survey of wild ungulates (at the beginning and at the end of the project). The project will further validate the existing proposals for zoning of the Gaplanyr State Nature Reserve using GIS supported habitat mapping and on-the-ground delineation of the buffer areas around the reserve (it is proposed to be of at least 2 km wide) and will support preparation of background documents for official approval of the ultimately proposed zoning³². Reforestation and saxaul planting to protect against salt dust storms will be carried out under Output 1.2. in selected locations. Mapping and zoning will be conducted in coordination with Output 1.1 land use planning (Act. 1.1.5).

114. The project will also support an assessment of watering infrastructure for wild ungulates and the construction/repair of 3 water wells for wild ungulates (in Gaplanyr Reserve and the two associated sanctuaries) in order to avoid their concentration in high number, near the (scarce) existing water infrastructure outside the border reserve, where they are hunted by poachers. In addition, 2 water wells will be rehabilitated or newly constructed in Amudarya Reserve and

³¹ The project will support the identification of business opportunities and alternative income generation, either through the development of a full Business Plan or the inclusion of income generating activities in the Management Plan.

³² The PPG conducted analysis has identified a need to include Zengibaba lake (2,400 ha) and adjacent Guyunyrilan KBA/IBA (3,500 ha) within the perimeter of the reserve, possibly attached to Shasenem Sanctuary and necessary legal justification documents will be prepared (in coordination with Output 2.2/ Activity 2.2.2)

Kelif Sanctuary. The local communities with which the project will work are represented mainly by shepherds, fishermen and hunters association. Gaplangyr Reserve has a Management Plan under preparation (2020) with the support of CADI project³³. The GEF project's increment will be the development of a Business Plan (encompassing proposed alternative income generation opportunities and measures) and identification of several feasible PES schemes, based on existing economic valuation studies of biodiversity in Turkmenistan.

115. Sanctuaries or Zakazniks (covering approximately 58% of the PAs areas in Turkmenistan, IUCN IV) have a less efficient management than the State Nature Reserves, no management plans and on-site administration or infrastructure or equipment of their own. The project's supported strengthening of management capacities, will (at least partially) seek to address these gaps. The project will develop an assessment of natural resources in the existing sanctuaries belonging to the two State Nature Reserves and will develop regulatory amendments for establishment of quotas and regulations for sustainable exploitation, for example sustainable quota for liquorice and implementation of regulation of the grazing activities. Grazing rules for buffer zones will be also developed and enforced. At the moment, there are no quotas for the exploitation of natural resources, merely fees which are expressed as a proportion of realized harvest³⁴ Similarly, orders on the opening of the hunting season define quotas per hunter per day, and additional regulations define fees per hunted individual, but no species-specific annual hunting quotas for individual hunting areas have been defined. The legal amendments will be submitted for review by the Ministry of Agriculture and Environmental Protection and further formal approval and enforcement by the PA rangers.

116. Strengthened management of the Gaplangyr State Nature Reserve and its sanctuaries (Sarygamish and Shasenem), is estimated to be leading to some positive changes/increases in population of key species (as measured by METT) such as the Argali (*Ovis vignei*) from 67 to 85 individuals; Goitered gazelle (*Gazella subgutturosa*) expected to increase from 87 to 105 individuals; Kulan (*Equus hemionus kulan*) from 61 to 75 individuals; the Egyptian vulture (*Neophron percnopterus*) expected to stabilize/increase from 6 to 8 individuals; Houbara bustard (*Chlamydotis unguolata*) from currently 19 to approximately 25 species during the project lifetime and beyond; Dalmatian Pelican (*Pelecanus crispus*) from 300 to 320 individuals; Great white pelican (*Pelecanus onocrotalus*) from 450 to 500 individuals; Saker falcon (*Falco cherrug*) from 8 to 10 individuals. Appropriate buffer areas will be identified and properly delineated on the ground through signage and consultations with local villages: Sarygamish, Atgyrylan; Gyzyl Bash; Selmeli Kol (in Ruhubelent district) and district authorities. Reforestation measures in strategic areas, will be conducted within the framework of Output 1.2, together with forestry enterprises, to act as a barrier against salt sandstorm and soil salinization.

117. **Activity 2.1.2 Support to PA infrastructure and equipment for management, monitoring and conservation activities**
Unsustainable agricultural practices, use of wildlife and biodiversity resources are key threats in the targeted PAs . Poaching, fishing, overgrazing are destabilizing activities causing disturbance of birds nesting territories and migration of ungulates. The buffer areas are inexistent and the PAs management units in Amudarya and Gaplangyr State Nature Reserves have old infrastructure, insufficient staff and limited number of vehicles for patrolling, as such PAs management units are unable to patrol habitats in all the areas including the sanctuaries, to control poaching and communicate with local communities on biodiversity regulations and resource use practices. All these renders the PAs protection less effective and leaves majority of threats to biodiversity unaddressed.

118. In Amudarya and Gaplangyr State Nature Reserves, the project's support will include on-the-ground delineation of the PAs core and buffer areas, including sanctuaries, through appropriate signage and demarcation of the territory (in coordination with the landscape planning under Output 1.1.). Proper designation of entrance, strengthening cordons, security zones, support to basic research facilities and establishment of monitoring protocols will be facilitated as well as the establishment of basic management/monitoring infrastructure; 5 observation towers are envisaged to be set-up in each Protected Area to ensure maximum coverage of the key sites supporting monitoring of wildlife but also tracking any environmental hazards (e.g. fires), strengthening cordons and building new enclosure for wildlife (kulan, gazelle and deer). The project will work with a specialised company and with the local branches of the Nature Conservation Society to create and install info-boards/signage and train/raise awareness of local communities about the key biodiversity values of IBAs/KBAs in the protected areas under the project's scope. The PAs staff will be equipped with operational IT equipment, GIS devices and field equipment for monitoring and conservation activities (high/low resolution satellite collars, ungulate subcutaneous tracking device; binoculars, camera traps, mobile communication devices; GPS navigators, power sources, generators, field equipment, silent motorboats, materials for fencing along wildlife migration corridors). The procurement of two vehicles is deemed necessary in order to cover the inspection of the sanctuaries, which at the moment are not

³³ <http://www.newscentralasia.net/2020/02/13/central-asian-desert-initiative-cadi-conservation-and-sustainable-use-of-turkmenistan-deserts/>

³⁴ UNECE 2012 Environment Performance Review

regularly monitored. The project will also support aerial counting of ungulates and water birds in both State Nature Reserves and will work with Uzbekistan specialists for the creation of transboundary migration corridors. The activities will be implemented jointly with the Department of Environmental Protection and Hydrometeorology of the Ministry of Agriculture and Environmental Protection, which will cover basic infrastructure costs, vehicle fleet maintenance and costs of PAs staff salaries and utilities.

119. The project will further support cross-border cooperation and exchange and will organize 2 field trips of a Turkmenistan delegation (5 people) to Kazakhstan and Uzbekistan, for joint programming and harmonised research and monitoring approaches under the Convention on Migratory Species. The participants will be PAs staff (management and science departments) and Ministry of Agriculture and Environmental Protection staff from the relevant departments.

120. ***Activity 2.1.3 Delivery of trainings for the PAs and management authorities.*** The experience of UNDP and other donor supported projects in Turkmenistan has highlighted the needs for paying particular attention to training rangers and other field staff in planning, monitoring, conflict resolution and enforcement. The project will conduct an initial Training Needs Assessment (TNA) of the PAs (TNA and training will cover all of Turkmenistan's PAs). A total number of 10 training workshops for the PAs staff; 3 trainings for central and local authorities and 2 trainings for border inspectors will be supported by the project. The training sessions will be organized and led by the Ministry of Agriculture and Environmental Protection in a cost-effective way (for example at the premises of the PAs headquarters, or at the ministry, or local branches of the Nature Conservation Society or other related agency; part of the travel expenses to the training locations will be covered from co-financing). The training modules will be developed based on a comprehensive Training Needs Assessment (TNA) and it is proposed to be organized/delivered in cooperation with the Environmental Protection Service of the Ministry of Agriculture and Environmental Protection as well as the Border Service of the Ministry of Internal Affairs and with the involvement of the Academy of Science and its institutes. The project will involve specialised NGOs in training delivery, exploring partnerships with the Nature Protection Society of Turkmenistan and other NGOs such as: the NGO "Bosfor"- a branch of Youth Union, the NGO "Ynanch-Vepa" a major player in promoting sustainable natural resource use among NGO community and local levels CBO and the NGO "Tebigy Kuwwat" a sub-division of Nature Protection Society of Turkmenistan.

121. Adoption of new, diversified learning-based approaches to capacity development for PA staff and translation of IUCN good practice guidelines in PAs management into local language, procurement of 10 field pocket guides for identification of flora and fauna for each PA will complement training sessions. For the PAs staff, the seminars could revolve around a few basic topics: "General information on biodiversity of specific protected areas (flora, fauna, ecosystems, rare and globally significant species, etc.);"; "Basics of environmental legislation" (the legal framework for management of protected areas, categories and regimes of protected areas, rights and obligations of protected area inspectors, etc.); "Fundamentals of conservation and sustainable use of biological resources." ;"Approaches and methods of research and monitoring" (selection of sites and objects for monitoring, timing and frequency, etc.); "Collection, processing, storage and use of data, maintaining cadasters and databases"; "Interaction with local communities"; "Anti-poaching in and around PAs-for field rangers" . The courses for field rangers will be designed as specific training modules to include topics ranging from values and ethics to conservation, human rights, use of force and community collaboration. Identification of opportunities for engaging local population in biodiversity conservation, joint patrolling of territories, protection of key sites will be part of the training courses. These topics will sensitize rangers to human rights and how to work within the framework of the various laws, regulations and guidelines and how to engage with local communities. This is expected to minimize the risks of potential conflicts that could ensue between rangers and local communities following application of PAs/environment regulatory regimes. These trainings will also address the issue of hostilities that could be faced by the rangers following possible threats / hostile attitude of some local community members or those involved in illegal activities e.g. poaching, logging, local developments (Annex 5, SESP).

122. In addition, there will be field trainings on practical conservation, research and monitoring: identification of plants and animals in the field; use of equipment purchased for PAs under the project - GPS navigators, camera traps, etc.; development of methods for monitoring biodiversity - methods for counting, use of camera traps, development and use of maps; search and detention of the offenders of environmental laws.

123. ***Activity 2.1.4 Delivering on eco-tourism potential*** The tourism and eco-tourism in the PAs of Turkmenistan is not developed and infrastructure is largely absent. The law of Turkmenistan "On Tourism (2010)" contains the concept of "ecological tourism", however the regulatory framework for this particular form of tourism is insufficient. In cooperation with the PAs management units and the Environmental Service of the Ministry of Agriculture and Environmental Protection the project will support an Assessment of the eco-tourism potential in the Amudarya State Nature Reserve and Gaplanyr State Nature Reserve and KBAs/IBAs under the project scope and a legal assessment of the main laws and regulations related

to eco-tourism with recommendations of ways to introduce incentives and other market mechanisms to encourage private rural entrepreneurs. The assessment reports should consider: (i) the patterns, profile and interests of existing visitors in the areas, (ii) the location of the area with respect to other established tourist circuits in the country (proximity to other visitors objective make a great difference); (iii) the level, the activities of inbound tour operators in the country and coverage by international tour operators, (iv) existing information and promotional mechanism in these area (v) existing infrastructure around PAs and existing interests from the local communities to engage in eco-tourism activities (vi) existing regulatory framework and economic incentives to promote eco-tourism.

124. Based on these two assessment reports, the project will develop the necessary legal amendments to the Law on Tourism, in order to include provisions for the facilitation of eco-tourism and proposed regulatory amendments to provide for incentives local communities, which will be submitted to the Ministry of Agriculture and Environmental Protection for review and approval of relevant authorities. In addition, the project will facilitate cooperation between the two State Nature Reserves management units and tourist organizations and companies such as “Lebapsykhata” and “Ayan” and other entrepreneurs as well as cooperation between local sub-divisions of the Nature Conservation Society, and the Society of Hunters and Fishermen, communities, families engaged in handicrafts and production of souvenirs.

125. **Activity 2.1.5 Strengthening capacities to prevent illegal activities.** Poaching is a serious problem which led to a colossal reduction in the number of Kulan (*Equus hemionus kulan*), Urial sheep (*Ovis vignei*) and Goitered gazelle (*Gazella subgutturosa*) starting from the 1990s (the first wave) and 2010s (the second wave). Species included in the Red Book are protected and for others, there are hunting permits issued by the United Society of Hunters and Fishermen with amateur hunting season rigorously regulated. Illegal poaching is still widespread outside the perimeters of the reserves and since there are no buffer areas, poaching of wild ungulates is almost certain once they venture outside the reserves borders. Apart from improving zoning and delineating clear buffer areas on the ground, the project will strengthen patrolling and environmental inspection skills of the inspectors and PAs rangers. The Training topics will be identified based on a Training Needs Assessment (Activity 2.1.1) and based on PPG conducted preliminary assessments, some topics are herewith recommended: (i) existing legal framework for the natural resources and PA protection; (ii) rules for registration of environmental law offenses; (iii) ways of involving local communities in the protection of wildlife; (iv) patrol planning, mapping, GPS technology, data collection, animal and plant identification; search and arrest; use of firearms; communication; first aid.

126. The project will further facilitate regular meetings between PA managers, ranger patrol staff, communities, inspectorates, border security in or in the proximity of the core areas to analyse trends in monitoring and legal compliance, aiming at addressing ongoing threats in a collaborative manner, including issues related to cross-border migration of wildlife. A “Council for the Management of Protected Areas” will be set-up under the coordination of the Department of Environmental Protection and Hydrometeorology within the Ministry of Agriculture and Environmental Protection, in order to coordinate the implementation of measures to prevent illegal activities, and keep a closer communication with local communities, involving them in as much as possible in the development of alternative sources of income. The Council will then facilitate the creation of joint teams in Dashoguz and Lebap provinces, of gamekeepers together with representatives of United Society of Hunters and Fishermen, the Nature Conservation Society, representatives of Forestry Enterprises and employees of the Ministry of Internal Affairs and environmental protection departments of the province authorities to ensure compliance with anti-poaching measures and involve local population in species monitoring. These activities will be aiming at building trust and involve local communities in as much as possible in local biodiversity management and monitoring and build their capacities, and by so doing, supporting the prevention (and/or mitigation) of any potential risk of conflicts between PA rangers/authorities and local communities, preventing illegal activities. SESP requirements will be mainstreamed in the TORs of the Council (as per Annex 5, SESP).

127. **Output 2.2** New protected areas operationalized through new and innovative approaches covering 60,000 ha of unprotected high priority ecosystems, supported by: gap analysis, feasibility studies and technical documentation for PAs establishment, analysis of ecological flow water requirements for maintenance and conservation of KBAs at new sites; mapping, management and financial plan preparation, with clear guidance for core and buffer zones, community-based conservation activities and monitoring.

128. **Activity 2.2.1 Increasing the level of biodiversity protection and /or improved integration in the surrounding landscape of KBAs/IBAs.** This activity aims at increasing the PAs coverage of KBAs that currently exist outside the protected area system. In 2009 a number of 50 KBAs/IBAs were identified in Turkmenistan, with a total area of 3,467,753 ha (7% of the country's territory), of which only 16 IBAs are fully or partially protected. The project is targeting most of the KBAs/IBAs in the two provinces. Within the project area there are different IBAs/KBAs : TM021Karashor (282,000 ha); TM022 Sarygamish (509,000 ha); TM026 Akjakaya (16,508 ha) and TM033 Muskinata (901 ha); TM037 Soltanjar-Duyeyoyun (54,632 ha); TM039

Gorelde (23,546 ha) are in Darganata district; and further south there are TM040 Erajy (5,591 ha), TM043 Nargiz (76,282 ha); TM044 Ketde-Shor (12,123 ha), TM045 Repetek (73,247 ha), TM 047 Soltandag- Gyzyburun (11,695 ha), TM 048-Zeyid-Kelif (85,488 ha), TM 049 Tallymerjen (167,701 ha).

129. The KBAs/IBAs Erajy, Nargiz, Repetek are covered (in full or partially) by the legally established reserves, although the PAs are not sufficiently equipped to efficiently monitor KBAs/IBAs included under their jurisdiction . To better assess the level of threat and the ecological status of KBAs/IBAs that are not covered by PAs system, the project will develop a Gap Analysis of IBA/KABs Anthropogenic Threats in order to identify the most critical KBAs/IBAs, habitats and ecosystems that are currently not included within the PAs system, which are under anthropogenic pressure. Regulatory amendments to legally establish KBA/IBA as a category of Protected Area and provide for improved regulatory protection and sustainable management will be developed and submitted for formal approval. The proposed assessment will be coordinated with the land use analysis under Output 1.1., and will be incremental to the current work done within the framework of a recently concluded MoU between the Ministry of Agriculture and Environmental Protection and the Association for the Conservation of Biodiversity in Kazakhstan ACBK (Birdlife International’s partner for Central Asia) focusing on endangered IBAs. The proposed project-supported assessment will be aligned with the IBA assessment framework elaborated by BirdLife International consisting of a framework that involves regular assessments in which each IBA is scored against indicators of pressure (the threat), state (condition of birds and their habitats) and response (the actions being taken to conserve the site).

130. The PPG preliminary gap analysis has identified Tallymerjen IBA, located on the right bank of Amudarya Reserve in Dovletli district, under significant anthropogenic threat, with impact on key species such as black vulture, imperial eagle, steppe eagle, and peregrine falcon. On the other hand, Muskinata IBA, a small tugai forest and floodplain ecosystems on the left bank of Amudarya river, may have lost its IBA importance and trigger species, due to the limited water availability and decline of bird nesting habitat. Therefore, the project will also carry out an Analysis of the Ecological Flow Requirements targeting the KBAs/IBAs that depend on water resources, with the goal of supporting sustainable water management resources in the wider landscape in order to preserve critical lakes, wetlands and riparian areas in Amudarya Basin. The ecological flow assessment will be done in coordination with Output 1.3.

131. **Activity 2.2.2 Designation of new PAs** Based on the assessments of the impacted KBAs/IBAs, the project will support designation of new PAs and will promote biodiversity friendly practices in the surrounding geographies of the KBAs/IBAs. At PPG stage two areas have been prioritised and these areas will be validated by the assessment under Act 2.2.1 The project will focus on approximately 40,000 ha in Darganata district, proposed “Pitnyak Sanctuary” At the PPG stage, together with the Ministry specialists, this area was proposed to include Pitnyak upland and the heights of Altykarash, Zheldi and MUYGER, part of the water areas of the Sultansanjar and Koshbulak reservoirs. The reason is that the territory hosts a combination of the narrow floodplain of Amudarya and the Khozhbulak and Soltanjar lakes with the Pinyak Upland and the adjacent sandy desert, saline and takyrs area. Young tugai massifs have been formed here, maintained after Tuyamuyun water recession by the lakes ecosystems. The vegetation is represented by psammophytes with ephemeral silt forms and small wormwood-saxaul-saltwort accumulations. Tugai vegetation-arboreal and shrubby is formed by turanga species of *Populus pruinosa* and *Populus euphratica*, *Eleagnus turcomanica*, *Tamarix florida*. Many migratory birds are nesting in the area, such as the great grebe *Podiceps cristatus*, pelican *Pelecanus onocrotalus* (1,100 individuals), red nosed duck *Netta rufina* (over 5,000 individuals counted) , the dalmatian pelican *Pelecanus crispus*, cormorants *Phalacrocorax carbo*, mallard *Anas platyrhynchos*, white egret *Egretta alba*, grey heron *Ardea cinerea*, purple heron *Ardea purpurea*. The project identified the threats that will be addressed through the proposed new form of legal protection . These threats are coming from agriculture (distant pasture grazing), wood harvesting and some development cuts across the territory (railroads, highways).

132. The second area to be further analysed and proposed as a new PA is located in Ruhubelent district, Dashoguz province, and includes Lake Zengibaba, covering approximately 20,000 ha (proposed as a Sanctuary IUCN IV category). In coordination with the preparatory work on Gaplanyr zoning (Output 2.1, Activity 2.1.1) , the project will conduct the habitat mapping and consultations with local communities on promoting sustainable agricultural practices around the lakes systems Zengibaba- Goyungirlan (KBA/IBA) hosting Turkmenistan Red Book species and key habitats with tugai and wetland ecosystems. These areas are hosting important nesting and feeding sites for Great white pelican, Saker falcon, Golden Eagle and Black Vulture. The project will hire the services of a specialised consultancy company or institution in order to conduct local assessments and meetings, survey the cadastral boundaries of the buffer areas of the existing and new PAs and their sanctuaries, prepare survey diagrams for the state land cadastre and land use register and physically demarcate boundaries on-the-ground, where appropriate signage and demarcation boards will be installed. The management measures of the new PAs (Sanctuary IUCN IV) will include biodiversity conservation and protection measures as per applicable regulations. The

project-facilitated consultations with the local communities will ensure that the new protection regime is understood by the local communities and that proposed conservation measures are supported by the local communities.

133. The project's qualified experts (conservation biologists, environmental economist, pasture and forest expert and community outreach experts) together with the local field coordinators, technical support staff and ministry counterparts will facilitate the local consultations with the local communities living in or in the proximity of the KBAs/IBAs to be designated as new protected areas. The project will deploy a participatory, inclusive consultation platform that will give the rural poor a platform to voice their concerns and expectations and to facilitate consensus.

134. During the consultations, the project manager supported by the project's field coordinators and local community outreach will ensure that any potential risk of economic displacement in the affected communities, resulting from the designation of new PAs will be mitigated through the *Process Framework* (as per SES requirements, please see SES Annex 5 and ESMF annexed as a separate report). The Process Framework would include the following elements: (i) Assessments of the socio-economic conditions of the local communities, highlighting the type and extent of the community use (and use by men and women) of natural resources in the targeted areas, and the existing rules and institutions for these and management of natural resources, including customary use rights; (ii) Assessment of threats and impacts on the relevant areas and local communities from various activities (e.g. poachers, traders, development activities); (iii) Assessment of the potential livelihoods impacts on men and women of new restrictions on the use of natural resource management in the proposed areas. (Please see Annex 16 Stakeholders Engagement Plan, including the Process Framework template).

135. Facilitation of local round table meetings will be supported by the Local Advisory Committees in the respective districts/villages and by the daikhan associations managing the land. Evaluation of the necessity of compensatory mechanisms and eligibility criteria, describing the measures that will assist the potential affected persons to improve their livelihoods will be identified as the result of these assessments and discussions. The project manager will ensure that information and guidance to local communities about the UNDP Conflict resolution and grievance mechanism is provided. The formal process of the new PAs designation will not commence before securing consensus with the local communities over the PAs border, management arrangements and monitoring measures (please see Annex 16 Stakeholders Engagement Plan / Process Framework Template; and Annex 5, SESP).

136. **Output 2.3.** Implementation of biodiversity-friendly sustainable use regimes in PA buffer zones and corridors covering approximately 292,607 ha aiming at increasing security of biodiversity status, promoting environmentally friendly agricultural practices and providing alternative income to local communities.

137. The project's focus under this output will aim to improve the integration of protected areas, KBAs/IBAs and biodiversity hot spots within the wider production landscape, with attention to the sustainability of land and water use in the buffer zones and corridors of PAs, within the overall KBA (IBA) areas. The work under this output is linked to the sustainable pasture management regimes under Output 1.4 which covers 500,000 ha of pastures (partly overlapping with the KBAs/IBAs) and with the work under Output 1.3 which covers 100,000 ha irrigated areas under sustainable management, in the production zones and surrounding geographies of PAs, KBAs/IBAs.

138. **Activity 2.3.1 Identification and delineation of ecological corridors and community-based agreements at endangered IBA/KBAs** Improving zoning around the targeted reserves will be complemented by the delineation of the corridors for wildlife feeding and migration, aiming to improve the integration of PAs within the wider production landscape. The project will map critical habitats, buffer zones and corridors, and identify spatial and temporal habitat use patterns (e.g. bird nesting times, calving zones etc) and identify buffer zones and corridors for wildlife and develop cooperative land use planning and management agreements for these areas. The project will work with PAs staff, local authorities and forestry enterprises, community representatives and local councils (People Councils). The following areas are proposed to be designed as ecological corridors, based on the information provided by the Ministry of Agriculture and Environmental Protection (backed by preliminary observance of migration patterns and availability of natural resources for key species):

- Outside the perimeter of Amudarya State Nature Reserve on 19,988 ha (1-4 km wide) along the Pitnyak-Kabakly-Nargiz route, the area is proposed in order to preserve the migration of Tugai deer (*Cervus elaphus bactrianus*) and the ecological integrity of tugai habitats. Assisted natural regeneration of tugai, at Kabakly site will be supported by the project (within the framework of Output 1.2) to patch up tugai corridors.
- Along Karakum river an ecological corridor of 9,482 ha, 2-2.5 km wide along Amudarya – Karakum river – Kelif route and
- Further from Kelif to Yagty-Yol in the vicinity of Mary (50,436 ha) to protect the habitat of Amudarya pheasant and other key bird species. The project will prepare the necessary participatory planning and consultations with local

communities, GIS supported habitat mapping and preparatory documents, for final review and approval by the Ministry of Agriculture and Environmental Protection.

- Between Taryngaya Upland and Zengibaba on approx. 45,000 ha, the project will support biodiversity-friendly corridors, this being an important nesting habitat for Saker falcon, Golden eagle, Cinereus vulture, Egyptian vulture.

139. The project will further support the current efforts of the Ministry of Agriculture and Environmental Protection and BirdLife International partner, to designate Tallymergen KBA/IBA as a Sanctuary (IUCN IV). The area of about 167,701 ha is located in Dovletli district in Lebap province, and it hosts more than 60% of the world population of a globally threatened bird species *Vanellus gregarius* during its autumn migration. The first inventories were conducted by the expeditions of the Royal Society for the Protection of Birds in 2015, and subsequent inventories conducted by the Ministry of Agriculture and Environmental Protection have confirmed the exceptional feature of this site. The identified threats are related to habitat fragmentation and degradation of food base, due to agriculture (unsustainable use of pastures) and development encroachment (roads, gas pipes) and poaching. The project will use GEF resources to focus on the consultations with the local villages and secure agreements on sustainable agricultural practices on the pasture areas surrounding and/or overlapping this IBA (in coordination with Output 1.4/ Act. 1.4.1 and 1.4.2) and enforcement of applicable legislation. Besides promotion of sustainable agricultural practices, the project will support land use mapping (in coordination with Output 1.1.) and local consultation work (building on exiting inventories and assessments) for the creation of a Sanctuary or a community management based protected area of the Tellymerjen KBA/IBA.

140. **Activity 2.3.2 Grant mechanism to demonstrate sustainable agricultural practices and sustainable income generation in production zones** The modality selected by the project is supporting local communities through a Grant mechanism which will include performance-based grants (based on UNDP Low Value Grants Policy) that will be complemented with technical assistance for mobilizing available financing (i.e. soft loans). This approach was selected after a careful analysis of the existing financing modalities in agriculture, lessons learned from other projects, interviews and surveys conducted at PPG stage. There are no dedicated financial instruments to financing Sustainable Land Management measures but the limited available soft loans do not exclude financing sustainable irrigation and pasture management. Although most of the farmers have a bank account, active borrowing is extremely limited among private farmers because Turkmenistan is a “cash economy” and many are unfamiliar with the banking system and usually need technical assistance (which only few can afford to pay for). Even when given an opportunity to obtain highly subsidized credit, many do not know how to apply, how to fill in bank application forms and write business plans, the rest lack collateral, and some may be unsure of being able to pay back. The largest majority of farmers are therefore unable to get any credit. In addition, although the repayment periods are up to 10 years, in reality loans are given on a very short period (e.g. one year) thus preventing applications for larger amounts such as the ones needed for financing irrigation technologies and irrigation canal repairs works. SLM measures such as sustainable pasture management are not a priority *per se* among shepherd and farmers, and the perception of a delayed economic benefits from implementing SLM measures coupled with land tenure insecurities, are discouraging private farmers in investing in SLM measures. One of the biggest problems is also the lack of foreign exchange available at a floating exchange rate. The national exchange rate is extremely limited and it applies only to some government programs and projects related to food security, as well as to procurement, to which only limited enterprises have access (please see Annex 11: A brief overview of the challenges of financing LDN compatible SLM).

141. The PPG conducted preliminary discussions with the main banks in view of assessing the opportunity of setting up a dedicated new financial product for financing LDN compatible sustainable land management measures. The conclusion (at the PPG stage) is that there are obstacles that could render this activity as being very risky for this particular project, due to the many barriers related to the difficult borrowing environment, lack of available hard currency, and lack of creditworthiness of the small and midsize farmers; in addition, a new financial product focused on SLM would need multiple stages of approvals from the Central Bank, which may or may not materialise during the project’s lifetime.

142. The project will consider therefore a three-pronged approach under these circumstances: 1) firstly, it will support the government’s efforts under the National LDN target setting exercise, to identify LDN investment opportunities through a more targeted analysis of the possibilities to integrate LDN within the available financial mechanisms; 2) secondly it will provide targeted capacity building to farmers and private rural entrepreneurs on development of bank applications and farm business plans necessary to access soft loans for sustainable irrigation measures and pasture management; and 3) thirdly, it will set up a Grant mechanism for targeted investments in the LDN compatible SLM promoted by the project (Output 1.2, Output 1.3, Output 1.4, Output 2.3). The competitive micro-grants will co-finance SLM measures that will demonstrate cost-effectiveness and replication potential. Advocacy and awareness activities under Component 3 will support the project’s effort to promote SLM as a mean to achieve land degradation neutrality. Previous evaluations of UNDP projects funded by the GEF SCCF “ Climate resilient livelihoods in agricultural communities in drought prone areas of

Turkmenistan” and Adaptation Fund’s project “Addressing climate change risks to farming systems in Turkmenistan at national and community level” have highlighted that grants are the most suitable way of supporting demonstrative community level interventions. In addition, the project will build on this project and the Adaptation Fund funded project good practices of setting up micro-grant programmes and grant selection criteria.

143. The Grant mechanism will be utilized by the project to incentivize local communities away from unsustainable agricultural practices and demonstrate the environmental and socio-economic benefits of the SLM measures described under different outputs. The grants will be based on signed agreements with the respective farmers’ associations, will be selected/awarded based on clear criteria (detailed below) and will support various types of SLM measures under Output 1.2, Output 1.3, Output 1.4 and Output 2.3, that are not impacting the key habitats and species in the surrounding areas and that are improving land condition and that will ultimately contribute to achieving land degradation neutrality. In addition, the project will provide the technical assistance needed by farmers to complete bank applications for soft loans and write farm business plans. The project will deliver a number of 4 trainings to local communities on rural entrepreneurship, on development of farm business plans and dedicated sessions on the development of loan applications. The trainings will be delivered in coordination with the Daikhan Bank branch offices in Lebap and Dashoguz and the local offices of the Union of Industrialists and Entrepreneurs of Turkmenistan (UIET).

144. The grants will cover the costs of water saving irrigation equipment, soil restoration horticulture measures for crop resilience to salt and drought, sustainable pasture management, saxaul planting, costs of seeds, wells refurbishment or construction, laser level equipment, and alternative livelihood options (eco-tourism, medicinal herbs processing, greenhouse, arts and crafts etc) as well as technical assistance for loans applications. Grants will be made to Water Users Groups; farmers associations, private entrepreneurs; shepherds, women farmers/ women organizations in the form of technical assistance, equipment or necessary technical works and biological materials (e.g. seeds) for the implementation of select SLM/LDN measures.

145. During the first year, the project will organize preparatory seminars in the targeted districts and will inform the potential beneficiaries about the grant mechanisms, proposals format, financing criteria and will offer technical assistance to the preparation of these proposals and the calculation of cost effectiveness. The calls for proposals will be launched during the second year. The proposals will be analysed by the Local Project committees representatives in the two districts (etraps) and a Technical Group formed by the project experts (including the Gender expert) led by the International Technical Advisor and the National Agrobiodiversity Economist (overseeing the Grants component). The next evaluation filter and quality assurance mechanism will be ensured by a short-term international economist hired by the project to assess these proposals from the socio-economic benefits and sustainability point of view. The final selection criteria will be focused around benefit-cost ratio (BCR) and the likely payback period (yrs.) of the interventions. Those interventions that cannot demonstrate a BCR in excess of 2:1 and a payback period of less than 10 years will not be funded. Proposals will be ranked on the basis of their economic returns as part of the selection process. Then, the winning proposals will be submitted to the Project Board for approval. Grant financing will be based on clear transparent criteria. A Grant Selection Manual with clear criteria will be developed by the Technical Group. The project will build on the experience generated by the development of the Grant Selection Eligibility Criteria, under the GEF/ SCCF “Climate resilient livelihoods in agricultural communities in drought prone areas of Turkmenistan”. Criteria for selection of applications (grants) will include:

- ✓ Implementation of feasible SLM measures such as: pasture management/forest management planning, tactical grazing techniques, restoration of abandoned degraded lands, efficient irrigation systems, crop rotation, alternative income sources that are biodiversity friendly. SLM measures could be complemented by alternative income generation activities such as agro-tourism, arts and crafts, green house, medicinal plant processing, promoting women and youth participation in particular etc.
- ✓ The feasibility of proposed measures and ecological benefits will be assessed from the technical point of view (technology), budget and timeliness of implementation.
- ✓ Cost effectiveness: An ex-ante cost benefit analysis will be part of the proposals design of the local interventions that is intended to be funded. The project will hire an economist to help the farmers conduct such cost benefit analysis. Socio-economic benefits (Benefit -Cost Ratio and payback period) and will have to be clearly highlighted.
- ✓ Location in the project target areas (as described by the identified *LDN hot spots* under Output 1.1; proposed areas under Output 1.2; Output 1.3; Output 1.4 and Output 2.3/Act. 2.3.1) and/or in areas situated in PAs and KBAs/IBAs buffer or productive zones, around the proposed ecological corridors under Act 2.3.1
- ✓ Sustainability criteria: evidence that the interventions are likely to be maintained over time, after the project has finished.
- ✓ Co-Financing: will be presented in the proposal (in the form of labour or other inputs).

- ✓ % of women and other vulnerable groups among beneficiaries of the proposed measures;
- ✓ Accessibility of pilot sites for hosting visits/tours for exchanging best practices e) commitment to sustainability and to maintaining sustainable land management measures after the project will end.
- ✓ Willingness of the applicant to participate in the project trainings and farmers-to-farmers sharing of experience

146. The project will ensure an approximately equal proportion of SLM measures financed through the selected investments (e.g. on the improvement of pastures, forests, irrigated areas, degraded abandoned land; sustainable income sources around PAs/KBAs/IBAs) . Investments will prioritize lower income mid and small size farmers and will ensure that at least 30% of beneficiaries are women. A UNDP grievance mechanism will be incorporated within the on-granting process with responsibility to monitor for early detection of grievances (*please see Annex 16: Stakeholder Engagement Plan : Conflict and Grievance Mechanism*). Grant winners will sign agreements to carry out agreed activities based on a set of measurable milestones (i.e. monitoring mechanism). An independent contractor will carry out evaluations.

Component 3. International knowledge sharing and cooperation for the Aral Sea Basin.

Work under this component addresses the wider synergies and regional cooperation aspects of the project. Although the project will operate fully within Turkmenistan’s national boundaries, it will not be operating in isolation from the regional Amudarya landscape and wider Aral Sea basin. For much of its course the Amu Darya river forms the border between Turkmenistan and Uzbekistan. The Amudarya river is one of the two major tributaries to the Aral Sea (along with the Syr Darya river), and the Aral Sea basin stretches across Turkmenistan, Uzbekistan and Kazakhstan. At the same time, Turkmenistan is a downstream country on the Amudarya, which has its headwaters in Tajikistan, Kyrgyzstan, and Afghanistan. Therefore it is critical that Turkmenistan be strongly engaged with regional efforts relating to the restoration of the Aral Sea basin, including the efficient use and management of the waters from the Amu Darya river. Beyond this, this component also encompasses the necessary knowledge management, monitoring and evaluation activities of the project.

147. **Outcome 3.** Strengthened and better informed engagement of Turkmenistan in implementation of regional cooperation under the International Fund for Saving the Aral Sea (IFAS) for improved management and restoration of Aral Sea Basin land and water resources, as evidenced by: (i) Turkmenistan is better represented at key regional forum and events supporting the restoration of the Aral Sea, and (ii) Support provided to international dialogue and cooperation on IFAS.

148. **Output 3.1** Higher capacity for government and scientific institutions for participating in IFAS. IFAS sanctioned activities for the implementation of global and regional initiatives put forward by Turkmenistan to save the Aral Sea e.g. Regional Environment Programme for Sustainable Development in Central Asia (REP4SD), Aral Sea Basin Programme 4 (ASBP-4) aiming at: (i) at least 3 IFAS meetings attended by Turkmenistan delegation where Turkmenistan contributes to decisions at IFAS (ii) Targeted knowledge management and exchange products (web-based, TV programs, trainings for communities and decision makers) on LD and BD issues in the Aral Sea (iii) Outreach and awareness raising on the problems of the Aral Sea basin, supporting Turkmenistan’s efforts to address degradation

149. **Activity 3.1.1** Providing support to IFAS for finalizing, launching and implementing international and regional initiatives put forward by Turkmenistan to address the problems of the Aral Sea Basin and strengthening national capacities to participate in IFAS meetings.

150. Long term solutions may prove elusive until water resources management and transboundary cooperation will be based on consensus and a shared regional vision that will supersede national narrow priorities. The project will contribute to a strengthened cooperation for an effective implementation of the regional environmental protection programmes for sustainable development in Turkmenistan (Resolution A/73/L.87/pg3). In this regard, the project will work with the national representatives in IFAS for the organization of a Special Platform for Multilateral Cooperation and Information Sharing on environment and water issues and will directly support Turkmenistan’s national priorities embedded within the framework of the Joint Communiqué of the Council of the Heads of the State-Founders of the International Fund for Saving the Aral Sea (2018), under the Regional Environmental Protection programme for Sustainable Development of Central Asia (REP4SD CA) adopted by the Ministers of Environment of Central Asia States in Nukus, Uzbekistan (2019) and under the Aral Sea Basin Assistance Programme 4 (ASBP-4).

151. Furthermore, the project will organize 5 Annual Water Diplomacy seminars in Ashgabat, in partnership with IFAS, the Ministry of Agriculture and Environment, the Ministry of Foreign Affairs and in cooperation with the United Nations Regional Centre for Preventive Diplomacy for Central Asia (UNRCCA) and experts from the Research Department of the “Water Design Institute “Turkmensuvlymtaslama”. Government representatives, NGOS and different research institutes of the Academy of Science, women groups and natural resource users representatives, and media will feature among participants.

The seminars will be focused on sustainability of water resources both at national and regional level, as a key driver of the SDG agenda. The project's experience will be showcased and it will provide a platform for moderated participatory dialogue and learning on different topics including (i) Water diplomacy as a political and diplomatic form of multilateral dialogue in the context of Aral Sea Basin; (ii) Mainstreaming integrated LDN compliant water-land management into regional programming in the Aral Sea Basin; (iii) Gender sensitive, participatory and sustainable water management issues in the context of climate change and progressive land degradation. The project will compile the analysis and information into the Proceedings on Regional Water Diplomacy and Water Management Programming in the Aral Sea Basin and will develop a set of Recommendations (technical as well as recommendations for strengthened institutional arrangements) for the government's officials conducting negotiations on regional water management, approaches on water diplomacy and on integrated water management regional programming, that supports advancing the sustainable development (SDG) agenda in the Aral Sea basin. In addition, the project's technical analysis on sustainable water management among multiple water users and technical reports and expertise will be leveraged to inform Turkmenistan's national positions and national statements at regional IFAS led negotiations on water resources. Furthermore, the project will support the attendance of Turkmenistan's delegation to three IFAS high level meetings by covering the travel costs (flights, accommodation, meals) of 5 national delegates.

152. Activity 3.1.2 Targeted knowledge management and trainings for communities and decision makers on LD and BD issues in the Aral Sea

153. Awareness and education on regional water issues will be complemented by a strengthened understanding of the problems related to water, land management and biodiversity in the country and in the Aral Sea Basin. Therefore this activity will focus on education and awareness of decision makers on IFAS programming tools, Land Degradation Neutrality and Sustainable Water Management, including land and water management issues that are common for all the Aral Sea Basin countries. At local level, the project will strengthen extension services to reach out to local communities, by joining efforts with the Adaptation Fund (AF) funded Project "Scaling Climate Resilience for Farmers in Turkmenistan". One of the outputs under this AF project is the delivery of trainings on climate resilience to 50 extension service providers in all the regions of Turkmenistan in cooperation with the Union of Industrialists and Entrepreneurs. The topics are likely to include: (i) Impact of climate change on the agriculture sector; (ii) Best practice methods and technologies to build resilience; (iii) Community engagement, participatory planning approaches; (iv) Extension service business model and service offering. The project will use the opportunity and great synergy potential and will join efforts with the Adaptation Fund project for the organization of joint training sessions, delivering training modules on LDN compatible Sustainable Land Management and Sustainable Water Management in production zones in the Aral Sea Basin, showcasing project's experience (that are otherwise not addressed by the Adaptation Fund project).

154. Traditional agricultural extension services face critical personnel shortages and many times offer direction, which are not taken up by farmers as the advice provided is generic and not wholly responsive to individual farmer needs. Apart from the facilitation of peer-to-peer exchange, the will contribute to the expansion of extension capacities of the local branches of the Ministry of Agriculture and Environmental Protection, through the addition of 2 extension persons to strengthen the Dashoguz and Lebap local offices of the ministry. The support services will be targeting the emerging class of private farmers (Daikhan associations) who will operate on longer term lease and have the option of making their own crop choices. They will be provided with legal advice on land tenure aspects, technical advice on SLM and water saving measures, guidance on writing loan/bank applications and farm business plans.

155. A network of "Sustainable Land Management (SLM) champions" formed initially by the farmers/association of farmers and private entrepreneurs and water users groups that have benefited from the grant mechanism (Output 2.3) will be set-up to promote the good practices on LDN/SLM and sustainable water management. The grant beneficiaries will share their knowledge and experience with other farmers in Dashoguz and Lebap. The project will advocate for women participation and representation in these meetings. The discussion will be moderated and will address opportunities for equal participation of men and women into (and benefiting from) the project activities. It is envisaged that the project will facilitate a number of 6 annual round table meetings (starting with the 3rd year, in each province Lebap and Dashoguz) followed by field trips to selected farms, where experience will be discussed and replication potential explored. The province level authorities (kyakimliks) will be invited to these meetings, to explore replication potential in other districts of the respective province.

156. The project will further organize 10 training workshops (2 days) targeting particularly women and youth, on biodiversity friendly alternative livelihoods, on topics such as: (i) the basic principles of eco-tourism and information on regulatory framework; (ii) support to realization of business plans and accessing funding to strengthen ecotourism infrastructure; (iii) alternative livelihood income such as commercialisation of dried fruits, medicinal plants/herbs,

mushroom farming etc (iv) strengthening local handicrafts skills such as carpet weaving, woodcarving, silk weaving, leatherwork- including women and youth in particular. In addition, in cooperation with local NGOs and partnerships with embassies and other bilateral donors, the project will further facilitate the organization of 10 annual arts and crafts exhibition fairs (bazaars) in the cities of Turkmenabat, Dashoguz and two events in Ashgabat, supporting the participation of local communities representatives living in the project targeted areas and organization of exhibitions of local cuisine and natural products, arts and crafts. The project will explore partnerships with the NGO community, such as the NGO “Yenme” which is providing support to people with disabilities, women and youth and socially vulnerable groups; NGO “ Bosfor” (Youth Union), the NGO “Ynanch-Vepa” (sustainable natural resource use) the NGO “ Tebigy Kuwwat” (Nature Protection Society of Turkmenistan).

157. Activity 3.1.2 Implementation of outreach and awareness raising events on the problems of the Aral Sea basin, supporting Turkmenistan’s efforts to address degradation

158. The preliminary awareness surveys conducted at the PPG stage have concluded that on average the general awareness of the local natural resource users on climate change, biodiversity, water and land degradation issues is between 80-90% Respondents have a good general sense of what climate change, land degradation or water scarcity stands for and how it impacts their livelihoods, however they lack sufficient awareness on the land degradation drivers and technical knowledge to shift towards sustainable practices. (Annex 19 Knowledge Management Plan / Discussion of the Questionnaire’s results).

159. With the support of a specialized PR/media company, the project will contribute to a better public awareness on the drivers of land degradation, water scarcity and decline of biodiversity and ecosystems goods and services, by organizing dedicated events in both provinces benefiting local communities and decision makers at local and national levels. A number of twenty awareness raising events will be delivered including TV and radio shows, conferences, thematic exhibitions and knowledge fairs, round table meetings, farmers-to -farmers interactions in the targeted villages, involving visits to the beneficiaries of the Grants scheme (Output2.3). The awareness campaign messages will focus on the problems of the Aral Sea Basin, especially efficient water management and equitable water sharing among different water users at national and regional levels; land degradation in the context of LDN and achievement of SDG 15.3; LDN compliant land use planning and SLM as stepping stones to addressing land degradation; biodiversity, KBAs/IBAs and the vital importance of the remaining lakes and wetlands in the Amudarya Basin for environment and for people livelihoods.

160. Radio is a very accessible information tool in rural areas and help connect the farmers to technical specialists, policy-makers other farmers, suppliers or buyers. The radio broadcasting will be explored not only as a project results disseminating tool but also as a resource to strengthen extension services and as a mean to reach out to even remote locations or to vulnerable groups (as is the case with many small size farmers/farmers associations) who may not have access to agricultural extension services. With the support of the PR/media company the project will organize the design and delivery of radio talk shows for farmers, including specific segments dedicated to women farmers. The content of the radio programmes will be supported by the project’s Knowledge Management expert, Communication Specialist and the other project technical experts but also by the project partners in the ministries, agencies, research institutes. Based on an MoU with the State Committee of Turkmenistan for Television, Radio broadcasting and Cinematography, the project will select a trusted radio station, known to be listened by most of the rural farmers.

161. Within the framework of this MoU, a number of dedicated 20 radio talk shows will be designed and delivered by the project, addressing different topics, starting with the dissemination of the good practices generated and tested through this project and moving towards tailored radio programmes for farmers. The selected media company will further support and conduct targeted research about farmers preferences, needs, opinions and demand for information, and these results will serve as a basis for tailored content or “ on-demand” radio talks. The TORs for this assignment will include specific tasks i.e. to carry out research and consultations with the representatives of vulnerable groups or remote communities in order to reflect assess their needs in terms of technical knowledge and awareness and reflect these needs in the delivery of the awareness campaign and tailored radio programmes, and by so doing the project will prevent/minimize potential risks of leaving out vulnerable groups (Annex 5, SESP). The project will also facilitate radio dialogues with representatives of the Ministry of Agriculture and Environmental Protection and State Committee on Water Resources and Research Institutes on farmer’s questions and concerns. The piloted radio programme and the available international best practices³⁵ will serve as steppingstones for the development of a proposal (project concept) aiming at attracting partnerships with private sector

³⁵ <https://www.g-fras.org/en/good-practice-notes/using-radio-in-agricultural-extension.html?showall=1>

and raising funds to set up a radio extension service. The presentation to potential financiers will be done with the support of the Union of Industrialists and Entrepreneurs and in partnership with the State Committee for Television, Radio Broadcasting and Cinematography. The proposal will be actively pitched to potential investors and financiers.

162. Output 3.2 Knowledge management; Lessons documented and disseminated within project partners and amongst stakeholders.

163. Activity 3.2.1 Systematizing project experience: The project's focus under this output is on knowledge management (Annex 19 Knowledge Management Plan). The Knowledge Management approach is mainly geared towards addressing capacity gaps and barriers :

- Knowledge dissemination, training, addressing knowledge gaps through Capacity building (IWRM, integrated water/land management, ecosystem services, wetlands, SLM, LDN, PAs management; rural entrepreneurship; eco-tourism, Arts and Crafts Trade Fairs, biodiversity friendly alternative livelihoods, water diplomacy and trust building, technical assistance to IFAS negotiations; social media, TV and radio talk shows, blogs, training on writing funding proposals and bank applications; training of extension service providers);
- Innovation focus: creation of new knowledge, new products (innovative crop resilience to salinity techniques; rotational grazing techniques; GPS guided monitoring of wildlife, Innovation challenge)
- Growth and change focus: cooperation, replication, scaling in and scaling out (including WOCAT, other Aral Sea platforms, CACILM platform, National Plan on Combating Desertification which scales up regional LDN approaches tested by the project). The Knowledge Management approach includes the preparation of a *Scaling Up and Replication Strategy*, ensuring that the valuable knowledge generated during the project implementation, documenting the trailblazing efforts driving progress towards LDN and integrated land-water management in production zones, will be replicated to other regions of Turkmenistan.
- Internal KM focus: continuous learning from other projects' experience and codifying the project's experience.

164. Coordination with other projects for example the GEF UNDP Project in Uzbekistan " Conservation and sustainable management of lakes, wetlands and riparian corridors as pillars of a resilient and land degradation neutral Aral Basin landscape supporting sustainable livelihoods" will ensure valuable knowledge exchange. Cooperation with the Adaptation Fund project "Scaling Climate Resilience for Farmers in Turkmenistan" will support knowledge exchange and dissemination of LDN and BD generated good practices on the AF project supported knowledge platform. Finally, with IFAS facilitation the project knowledge and information generated by different technical assessment of water management, and estimation of minimum ecological flows for water depended bodies on Turkmenistan side of the Amudarya and Aral Sea Basins will be shared with countries in the region and dialogues facilitated promoting mutual trust and best practices. While the project will be building on recent good practices and experiences in Turkmenistan, it will also be pushing boundaries, innovating, and developing new approaches.

165. It is critical that these new experiences and lessons are documented, formed into targeted messages, and disseminated to relevant stakeholders in the country and in the region, through IFAS platforms and other multiple knowledge management platforms, including web-based communication channels, newsletters, lesson notes, case studies, and workshops. The systemization of the project's experiences will be performed on an annual basis and will be used internally to inform the project management team in the execution of its functions, the Project Management Unit in its implementation, and the project's stakeholders and beneficiaries. The lessons learned will input into the project iterative management process and will guide project management adaption.

166. This systemization will occur at several levels, including at the project management level, stakeholder involvement and management level, and during the implementation of project activities to document best practices and knowledge generation at the local level. The lessons learned and best practices will be compiled, collated, and packaged into several formats (e.g., brochures and flyers, electronic forms, short videos, and impact documentaries) that are geared towards specifically targeted groups and audiences, using community groups and/or NGOs to assist in capturing lessons learned and best practices. The project will also support the participation of government, private, and community stakeholders in conferences to share experiences, best practices, and lessons learned about biodiversity conservation and SLM/water management in production landscapes, and in regional forums with for information exchange

167. Component 4. Monitoring and Evaluation

168. Outcome 4.1 Project results properly monitored and evaluated

169. Output 4.1.1 Set of monitoring activities implemented

170. During the project implementation the M&E will be conducted following GEF and UNDP guidelines and according to the M&E plan described in Section V of this project document. The main tasks of the M&E plan include an inception conference/workshop and report, annual monitoring of indicators in the project results framework, annual project implementation reports (PIR), ongoing monitoring of environmental and social risks and implementation of SES requirements, supervision missions, updating GEF core indicators and METT (at midterm and project end), monitoring of Global Environmental Benefits, ongoing monitoring of the Stakeholder Engagement Plan and the Gender Action Plan, Project Board meetings, oversight mission by the UNDP-GEF team, mid-term and terminal GEF7 Core Indicators and METT updates, an Independent Mid-term Review (MTR) and an Independent Terminal Evaluation (TE), project final conference. The Project Manager will ensure the collation of all the project evaluative knowledge and information, supporting the project’s adaptive management, and final project report.

3.2 Project area and sites

171. The project will be implemented in Amudarya River Basin in Dashoguz and Lebap provinces. A detailed description of the targeted landscape is included in the Annex 6: Targeted Landscape Profile.

3.3 Alignment with GEF focal area strategy

172. In working towards its overall objective, the project will generate global environment benefits under two GEF focal areas, by tackling the underlying drivers of land degradation and biodiversity loss. Thus, the project takes strategic direction from the GEF-7 programming guidance for the land degradation and biodiversity focal areas. With respect to land degradation the project links directly to Turkmenistan’s commitment under the UNCCD to achieve the Sustainable Development Goals target 15.3 and has been designed in line with the UNCCD LDN Checklist. Under Component 1 the project will promote LDN compatible integrated and participative land use planning in production zones and will incentivize local communities and entrepreneurs to restore and maintain soil productivity and promote biodiversity friendly agricultural practices. The project’s Component 1 is aligned with LD Objective 1 “ Support on the ground implementation of SLM to achieve LDN and strategic focal area elements LD 1-4 “Reduce pressures on natural resources from competing land uses and increase resilience in the wider landscape”. The project is aiming at restoring 5,300 ha of saxaul forest and tugai forest, 4,700 ha irrigated land and 50,000 severely degraded pastures, while putting under improved management practices approximately 100,000 ha of irrigated land and promoting sustainable rangeland management on 500,000 hectares of pastures.

173. With respect to biodiversity focal area the project’s component 2 is programmed to address direct drivers of biodiversity loss under Objective 2 “ Address direct drivers to protect habitats and species by Improving Financial Sustainability, Effective management and Ecosystem Coverage of the Global Protected Area Estate”. The project targets two of the country’s PAs (including their sanctuaries) seeking to strengthen the management efficiency of 1, 077,554 ha of existing protected areas. The project will also focus on the KBAs/IBAs within the wider production landscape, with attention to the sustainability of land and water use in the buffer zones and corridors of PAs, within the overall KBA (IBA) areas. The work under Component 2 will be linked to sustainable pasture management regimes under Output 1.4 which covers 500,000 ha of pastures around PAs, KBAs/IBAs.

3.4 Incremental Cost Analysis (Baseline vs Alternative Scenario) and Global Environmental Benefits

174. A summary of the GEF incremental interventions and benefits is presented below:

State of ecosystem under baseline	Summary of GEF incremental intervention	Benefits
Sustainable Land-Water Management		
In the baseline scenario the “ Program of the President of Turkmenistan for the socio-economic development of the country” and the “Program for the Development of Agriculture of Turkmenistan 2019-2025 “ include public investments in agriculture sector. However, the degradation of arable lands continues, from ineffective and	There is no other initiative promoting LDN at regional level and integrated LDN compliant land use management and therefore the contribution from the baseline will be significant, in that it will set up integrated land use and sustainable land management regimes and will help direct national investments under national programmes towards	<ul style="list-style-type: none"> National LDN Target (partially supported by the project) functions as a scaling up platform of sustainable land management measures. LDN promotion in two priority provinces prioritizes LDN compliant land management based on the “prevent-reduce-restore” hierarchy.

<p>inefficient irrigation techniques and inappropriate crop prioritization.</p> <p>Critical lake, wetland, and riparian ecosystems continue to be affected by the reduced water availability, exacerbated by climate change, and encroachment by livestock and agricultural land use.</p> <p>In the baseline scenario no measures are taken to prioritize the minimum ecological flow that will guarantee the ecological integrity of the last remaining wetlands.</p> <p>Further destruction of critical and sensitive tugai and saxaul forest ecosystems will continue to contribute to the degradation of the important ecosystem services they provide.</p> <p>In the baseline scenario, the absence of integrated land use planning and improper land use remains a driver of land degradation.</p> <p>The last pasture inventories have been done decades ago and there is only very limited data on the existing degree of pasture degradation.</p> <p>Pasture management institutional framework and knowledge is inefficient, there are no links between local authorities and pasture users, who do not have capacity or data to implement sustainable grazing and land management practices in their respective pasturelands.</p> <p>Livestock farms will continue exceeding pastures carrying capacity by [1.5-2] times resulting in reduced provision of ecosystem services, leading to reduced economic and ecological productivity, and diminished livelihoods.</p> <p>Poor agricultural land management near protected areas affects key habitats and species.</p>	<p>addressing land degradation in priority LDN <i>hot spots</i> where it matters most.</p> <p>The project supports the Government of Turkmenistan’s liaison and partnership with the UNCCD/ LDN Target Setting Programme for setting up the National LDN Voluntary Target. The costs of the realization of the following outputs can be considered incremental from the baseline:</p> <p>-LDN Baseline analysis and capacity building for national and regional LDN, aiming at strengthening national key stakeholders capacities for engaging in LDN target setting.</p> <p>-National Action Plan to Combat Desertification, which will include National and Regional LDN Targets and measures to achieve these targets.</p> <p>-Integrated sustainable land management approaches implemented in priority areas of critical interface between production systems and high value ecosystems, including mapping of various land use and land cover information.</p> <p>-Regional LDN targets established for Lebap and Dashoguz and action plan agreed for achieving targets; PAS and KBAs/IBAs contextualized in the broader landscape.</p> <p>-Integrated Land Use Management plans approved; Guidelines and manuals institutionalized for further replication and scale-up.</p> <p>-Water management infrastructure surveyed and strengthened (repaired).</p> <p>-4 Water User Groups operationalized</p> <p>-Pasture surveyed and Sustainable pasture management regimes promoted in production zones and around PAs, KBAs/IBAs.</p> <p>Baseline: USD 20,000,000</p> <p>Increment: USD 2,296,591</p> <p>Co-financing: USD 36,712,905</p>	<ul style="list-style-type: none"> • The project-supported National Action Plan to Combat Desertification, includes the National and regional LDN targets and represent a platform for scaling up SLM measures. • Stabilized ecosystem services in 660,000 ha of production landscape under improved management to benefit biodiversity in Dashoguz and Lebap provinces along Amu Darya. • Efficient water management for 100,000 ha of irrigated land in 4 priority districts. • Crop resilience to salinization improved in 10,000 ha. • Sustainable pasture management in 500,000 ha. • 50,000 ha of degraded pastureland restored. • 5,000 ha of native saxaul forest planted in degraded areas: Measures facilitating natural regeneration of 300 ha of tugai forest. • 4,700 ha of salt tolerant crop varieties planted and soil productivity restored. • Improved livelihoods, SLM knowledge and awareness of 9,750 farmers (30% women) benefiting from improved pastures, forests and irrigated arable land regimes
Biodiversity		
<p>Baseline government support for the protected areas in the targeted Amudarya landscape will continue to have low management effectiveness, failing to fully achieve their biodiversity conservation objectives. The Gaplangyr State Nature Reserve and Amudarya State Nature Reserve will continue to be inadequately integrated in the wider landscape, due to a lack of buffer areas and appropriate zoning, and the</p>	<p>The project supports management effectiveness of two major existing PAs (and their sanctuaries) and the costs of realization of the outputs below could be considered incremental from the baseline:</p> <p>-Enhanced information about and status of species in PAs, including: updated information on population of key</p>	<ul style="list-style-type: none"> • Secured biodiversity status in 1,077,554 hectares of PAs in the Amu Darya landscape • Implementation of biodiversity-friendly sustainable use regimes in PA buffer zones and corridors covering 292,607 ha. • Stable/increasing population of wild ungulates in the PAs due to improved zoning and ecological corridors, non-

<p>absence of land use planning that fully mainstreams biodiversity considerations.</p> <p>Under the baseline situation the identified KBAs/IBAs of Turkmenistan’s mid and lower Amu Darya landscape will continue to have their biodiversity degraded, as resource use is unsustainable and land use patterns do not adequately reflect biodiversity considerations.</p> <p>More than 7,000 ha of HCVF tugai forest and hundreds of thousands of hectares of dry saxaul forest will continue to be degraded through agricultural encroachment and overgrazing, with additional losses of already highly-depleted forest zones.</p> <p>Protected area staff and managers do not have the capacity and resources for effective PA management, and PAs continue to lose their nature conservation values</p> <p>Populations of threatened species are likely to continue decreasing due to loss of habitat, poaching, and poor natural regeneration. These include numerous rare bird species, such as the Saker falcon (<i>Falco cherrug</i>), Egyptian vulture (<i>Neophron percnopterus</i>), Dalmatian Pelican (<i>Pelecanus crispus</i>), Great White Pelican (<i>Pelecanus onocrotalus</i>), Great Cormorant (<i>Phalacrocorax carbo</i>).</p> <p>Baseline information on the distribution, abundance, seasonality, and recruitment rates of rare and endangered species remains incomplete.</p>	<p>species, density, distribution and migration patterns, improved cross-border cooperation on wild ungulates migratory routes; improved species and habitats database accessible to environment and PAs staff underpinning management decisions.</p> <ul style="list-style-type: none"> - Improved control over illegal activities (e.g. poaching, illegal tree cutting); strengthened capacities for monitoring and patrolling. - Technical capacities of PAs staff, environment inspectors and managers strengthened. - Gap analysis of PAs and KBAs/IBAs including a comprehensive assessment of KBAs/IBAs in targeted Amudarya Basin and prioritized conservation measures; - New conservation areas operationalized covering 60,000 hectares of unprotected high priority ecosystems, supported by feasibility studies and technical documentation for PA establishment; - Analysis of ecological flow water requirements for maintenance and conservation of KBAs/IBAs - Improved management efficiency of two large state nature reserve under the project scope (Gaplangyr and Amudarya) including their sanctuaries. Biodiversity mapping, management, and financial plan preparation, with clear guidance for improved zoning and clear delineation of core and buffer zones, conservation activities and monitoring will improve PAs management. - Community endorsed biodiversity friendly practices in PAs and KBAs/IBAs buffer areas. <p>Baseline: USD 2,580,000 Increment:1,597,043 Co-financing: 19,481,761</p>	<p>deterioration of threatened bird species observed in KBAs/IBAs, including Egyptian Vulture (<i>Neophron percnopterus</i>), Saker Falcon (<i>Falco cherrug</i>) Dalmatian Pelican (<i>Pelecanus crispus</i>), Houbara Bustard (<i>Chlamydotis undulata</i>), Cinereous Vulture (<i>Aegypius monachus</i>), Ferruginous Duck (<i>Aythya nyroca</i>), Swan goose (<i>Anser cygnoid</i>), European roller (<i>Coracias garrulus</i>)</p> <ul style="list-style-type: none"> • Management effectiveness increased for 2 existing PAs (and their sanctuaries) covering 1,077,554 hectares (as measured by METT) • New protection mechanisms established covering additional 60,000 of currently unprotected KBAs, increasing PA coverage of KBAs/IBAs area.
Capacity Development and Knowledge Management		
<p>Regional efforts on the conservation and restoration of the Aral Sea basin land and water resources are inadequate, not fully implemented, and do not effectively engage all stakeholders</p> <p>Turkmenistan representatives remain limited in their ability to engage effectively with regional counterparts regarding the</p>	<p>Several distinct outputs could be considered incremental from the baseline:</p> <ul style="list-style-type: none"> - Strengthened capacities of government and scientific institutions for participating in IFAS regional meetings and negotiations. - Targeted awareness and knowledge management and exchange products (web-based, TV programs, trainings for 	<ul style="list-style-type: none"> • Strengthened engagement of Turkmenistan in and implementation of regional cooperation under the International Fund for Saving the Aral Sea (IFAS) for improved management and restoration of Aral basin land and water resources • Turkmenistan is represented at regional fora and events supporting the restoration of the Aral Sea

<p>long-term sustainable management of land and water resources in the Aral Sea Basin</p> <p>Land and water managers in the Lower Amudarya landscape do not have capacity, knowledge, or awareness to implement strategic sustainable land and water management practices</p> <p>Critical ecosystems continue to be negatively impacted by poor land and water management practices, with associated ecosystem services degrading over time</p>	<p>communities and decision makers) on LD and BD issues in the Aral Sea Basin focused on addressing knowledge gaps.</p> <ul style="list-style-type: none"> -Direct exchange of good practices and lessons (particularly on SLM in arid ecosystems) with ongoing regional initiatives and knowledge management platforms, including CACILM, WOCAT, and CAREC -Outreach and awareness raising on the problems of the Aral Sea Basin, supporting Turkmenistan’s efforts to address degradation -Lessons documented and disseminated within project partners and amongst stakeholders and made available to the general public through multiple KM platforms. <p>Baseline:100,000</p> <p>Increment: 689,562</p> <p>Co-financing: 1,333,334</p>	<ul style="list-style-type: none"> • Commitment to Aral Sea region restoration is secured at the highest levels of government • Decision-makers from provincial and national levels are fully engaged with and aware of efforts to restore the Aral Sea region
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175. Global Environmental Benefits

176. The Amudarya Landscape and the wider Aral Sea Basin has multiple land use types and ecosystem services ranging from sensitive water dependent wetlands and lakes to fragile desert ecosystems and the project’s integrated approach is designed to generate multiple GEB. Land Degradation (LD) benefits come from sustainable land management and from land restoration measures compliant with LDN principles, expected to result in an increase of the soil organic carbon over the long term. The project will improve water management on 100,000 ha of irrigated land in the four targeted districts which will lead to reduced water logging, improved water resources use and reduced soil salinization and therefore improved soil condition. The benefits of the agroforestry and resilient crop farming measures will lead to reduced soil erosion and increased soil productivity. The implementation of recommendations on the observance of minimum ecological flows of lakes will secure ecological integrity of the lakes in Amudarya basin. Approximately 500,000 ha of pastureland will be under sustainable management regimes that will result in the avoidance or reduction of pasture degradation over longer term. Demonstrated cost-effective restoration interventions and further action plans for restoring approximately 50,000 ha of degraded pastures, 5,300 ha of tugai and saxaul forests and 4,700 ha of degraded agricultural land will remove the risk of land loss and in the long term will lead to soil carbon increase and gradual soil productivity increase. Targeted support to forest and lake ecosystem restoration, in return, will remove the erosion risk of crop fields and pastures. Carbon benefits will accrue as soil carbon is restored and forest regenerates. The project addresses land resources through integrated land use planning, sustainable production and restoration of degraded lands around PAs and KBAs/IBAs. The rehabilitation of degraded lands will support the needs of agriculture without further expansion into the riparian and floodplain tugai forests.

177. Sizable BD benefits are associated with the community based agreements facilitated by the project, covering 292,607 ha buffer zones and ecological corridors on areas highly affected by agriculture and other development activities. The project will provide for expansion of PA estates by an increment of 60,000 ha covering KBAs/IBAs stabilizing population of critical species. The GEF investment will significantly strengthen the management effectiveness of 1,077,554 ha of existing PAs and will provide improved conditions to achieve a stable status of global Red List species. The project will contribute to the national effort toward meeting the Aichi Targets with its incremental effort at preventing the loss of natural habitats and reducing degradation and fragmentation (Aichi Target 5), strengthening management capacity, resilience and financial sustainability of projected areas (Target 11), and restoration and building resilience of key ecosystems and habitats (Targets 10 and 15). The project has been designed using the UNCCD LDN Checklist (please see Annex 26). The ecosystem management benefits will be mostly associated with the sustainable land management regimes and rationalized and efficient use of water resources for improved management of land, forests.

3.5 Local and national project beneficiaries and benefits

178. The envisaged benefits to local and national stakeholders will be interconnected with the aggregated environmental benefits enabled by the project's features: (i) embedded integrated benefits and synergies across focal areas, (ii) mechanisms for integrated decision making and (iii) landscape-scale designed interventions. The project incentivizes local actors away from destructive behaviour through engaging them in biodiversity friendly livelihoods around protected areas. Adequate awareness, technical knowledge and access to funding are key to ensuring that stakeholders will be able to adopt innovative, environmental-friendly practices. Approximately 10,150 people stand to benefit directly from various project's interventions. The project aims at increasing capacity of 100 public sector employees and 200 PAs staff who will be participating in training activities. About 100 of local producers/farmers will benefit from micro-grants and an estimated income increase of at least 20% as a result of the implemented SLM measures. This is a conservative percentage, as income generation from recommended SLM measures will likely provide more benefits: e.g. according to past donor-supported projects³⁶, application of rotational grazing alone can provide an estimated net profit of up to \$16 per sheep (after subtracting the costs per sheep of about \$8). The repair of the irrigation network (Output 1.3) has proven economically profitable, for example: repair of dams and reservoirs will increase water availability and can support expansion of cultivation areas (that previously were not suitable); the Internal Rate of Return (IRR) is 227% and the payback period is 1 year; the repair and lining of water storage basin will reduce water losses and leads to increased water supply. The IRR is 15% and payback period is 8 years; construction of drip irrigation systems will increase with approximately 40-50% the fruit and vegetable yields and the IRR is 29% and payback period approximately 5 years.

179. Approximately 9,750 farmers will benefit from the refurbishment of irrigation systems on demonstration plots, demonstrative drip irrigation systems, construction of water wells, rainwater harvesting facilities and pasture management regimes and restored degraded land. The generated experience is replicable at the level of Dashoguz and Lebap provinces, particularly through the guidelines, manuals, land use planning tools, demonstrates experiences at local level, aided by the awareness events and radio/TV talk shows. Through the awareness events and dedicated radio and TV shows that are being listened to by a large number of local community members, it is possible that number of beneficiaries will increase. Improved livelihoods resilience is likely to result in reduced economic losses associated with water scarcity, and in greater agricultural productivity, increased revenues and employment prospects and diversification of income sources. The project's micro-grant scheme's gender sensitive criteria will prioritise mid and small farmers located in the selected areas (and in the identified LDN hot spots) including women, youth and vulnerable people thus prioritising support to the most vulnerable from environment and social perspective. Greater resilience will result in reduction in economic losses associated with climate shocks. At national level, these losses are estimated at \$ 2.5 billion per year by 2030. Cost benefit analysis will be undertaken for individual investments to be made on demonstration plots. Due to the awareness and education events and due to the National LDN Target and enabling policies the potential for scaling up sustainable land management measures and integrated LDN compliant land use planning will increase the replication potential.

3.6 Consistency with national convention strategies/plans/reports/assessments and priorities

180. The project is consistent with the national priorities and the project's design is aligned with the country's international commitments under the main UN Environmental Conventions. The project is directly supporting the implementation of Turkmenistan's NBSAP 2018-2023 aligned with a) Goal II "Sustainable use of biodiversity and habitats influenced by anthropic" particularly Objective 3 "By 2023 develop and adopt a long term programme for sustainable management of natural pastures"; Objective 5 "By 2023 develop and start implementing programs for rational use of water resources of Turkmenistan, which include biodiversity" and Target 6 "By 2023, develop and implement sustainable use of water and biological resources"; and b) Goal IV "Development of natural protected areas for improving environmental protection and socio economic benefits", Target 10 "By 2023, effective management of the protected territories will be significantly strengthened". The project addresses key ecological gaps identified under the CBD POWPA work plan, integrates PAs into the wider landscape and involves communities in conservation efforts. The need for conservation of rare species of the high value ecosystems of the Amu Darya basin is prominent in Turkmenistan's latest National Report to CBD. It also demonstrates an integrated approach to the improved management of PAs for under-represented ecosystems (i.e. arid ecosystems), covering a number of topics, ranging from technical aspects (capacity building of existing and new protected areas, harmonization of PA management planning, development and implementation of a comprehensive monitoring system for biodiversity and ecosystems) to socio-economic dimensions (support for alternative income-

³⁶ Examples recorded in UNCCD/WOCAT database and under previous Adaptation Fund initiative in Turkmenistan.

generating activities for local communities such as ecotourism, and apiculture, to integration of PAs with biodiversity conservation and sustainable land use in adjacent areas. The project directly supports the achievement of Aichi Target 12:

181. By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained. Through the landscape approach it substantially contributes to the following Aichi Targets: (i) Target 5: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced' (ii) Target 11: By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes; (iii) Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.

182. The project is further aligned with the international commitments under UNCCD through the technical support for the development of the National Action Plan on Combating Desertification and implementation of LDN compliant measures as well as support to LDN enabling frameworks including measures to enhance the resilience of communities and ecosystems to drought. The project further supports the country's commitments under the recently ratified Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) by facilitating cross-border wild ungulates conservation measures and joint programmes. The project aligns with the National Climate Change Strategy of Turkmenistan (2012) which includes priorities on the optimisation of agricultural production with focus on drought and salt resistant crops, improved land management (e.g. crop and pasture rotation), soil desalination and drainage measures and sustainable pasture management. The project also aligns with the Nationally Determined Contribution of Turkmenistan (2014) and with the adaptation policies which identifies agriculture and water resources as core sectors vulnerable to climate change, with a preliminary estimate of adaptation costs at approximately \$ 10.5 billion.

183. The project is aligned with the priorities set out in the main legislative framework in agriculture and water sector such as: (i) the Water Code of Turkmenistan, which stipulates (inter-alia) that inter-farm irrigation and drainage belongs to the state water management organizations, while water users are having direct responsibility for operation of irrigation and drainage network and hydrotechnical facilities at their own costs. In August 2012, Turkmenistan acceded to the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes. By joining the Convention, Turkmenistan undertook the review of the Water Code to meet some of the basic provisions of the Convention, including the rational use of water by the transition to the basin principle of water resources management, involvement of water users in the management of water resources, and improving tariffs for water supply services to ensure its more efficient use. The programme for water management of Turkmenistan for 2018 – 2030 is currently under development; (ii) the Land Code of Turkmenistan, lists the measures for efficient use of land resources, procedures for state land management, maintenance of state land resources and monitoring, measures for improving soil fertility and conservation of natural resources.

184. The project further aligns with the main national policies and programmes such as: (i) The "Strategy of Economic, Political, and Cultural Development of Turkmenistan Until 2030" which sets out targets in relation to agricultural outputs. A considerable proportion of irrigated agricultural land is planned to be transferred to the private sector enterprises. The private sector tenants will include joint-stock companies, daikhan (farmer) cooperatives and unions. These categories of land users are expected to introduce more effective and efficient water use technologies and water saving practices. At a broader level the Strategy states that the overarching national development goal is to shift to a growth model based on innovation and sustainable development; (ii) The Programme of Social and Economic Development of Turkmenistan, 2019-2025, which outlines Turkmenistan's social and economic development objectives for the next years and reflects the main principles, priority directions, required actions and expected outcomes. The primary objectives of this programme are to continue implementation of market reforms and transition to a market-led economy, economic diversification, rational use of natural resources, improving human capital, and improving the living conditions of the population; (iii) The National Action Plan on Gender Equality 2015–2020, sets the county's strategy on achieving gender equality, and highlights 15 targets and 60 activities that include increasing women's competitiveness in labor markets, improving maternal and child health outcomes, and the creation of gender-responsive legislation; and (iv) The "Programme for the Development of Specially Protected Natural Areas of Turkmenistan 2030" which makes provisions for the increase of the total PAs network up to the 7.18% of the territory, including KBAs/IBAs and Ramsar wetlands, ecological corridors and reserves.

185. In addition, the project will support the following general prioritized areas put forward by Turkmenistan within the framework of the Regional Environmental Protection programme for Sustainable Development of Central Asia (REP4SD CA) and under the Aral Sea Basin Assistance Programme 4 (ASBP-4):

- Water Resources: ensuring effective water quality monitoring, including the monitoring of water turbidity on the flow of Amu Darya River; exchange of technologies and experience in restoration and conservation of water-related ecosystems.
- Climate change: development of climate scenarios for the Central Asian region; preparation of the Regional Strategy on Climate Risk Reduction in Central Asia; improving education, preparation of qualified staff and public outreach on the issues of climate change.
- Desertification and biodiversity: implementation of the Sub-regional Action Programme to Combat Desertification, making the functioning of Central Asian wetlands sustainable by implementing best practices for their management; restoring the Tugai forests of the Amu Darya Valley; creating the Red Book of Central Asia; studying traditional methods of conservation and rational use of genetic resources; developing and implementing methods to prevent the introduction of alien species.
- Cooperation, science and technologies: develop cooperation between Central Asian countries in the fields of science, technology and innovative technologies; strengthen the institutional capacity of regional cooperation organizations to facilitate the implementation of national plans aimed at achieving the Global Goals for Sustainable Development, including their indicators.

3.7 Relevance to SDGs

186. The project is relevant to, and will contribute to, several of the SDGs: Goal 1 No poverty, by targeting vulnerable small farmers (men and women equally) and supporting sustainable production practices that will contribute to food security; Goal 5 – Gender equality, through benefits to women and men from biodiversity conservation and SLM activities, and women empowerment through their activity participation in related decision-making processes; Goal 6 – Clean water and sanitation, by protecting and restoring tugai forests, lakes and wetlands that contribute to groundwater recharge and promoting SLM and environmentally friendly agriculture that are conducive to reducing pollution in the Amudarya River Basin; Goal 8 – Decent work and economic growth, by focusing on production sectors (agriculture and forestry) that employs a large sector of the population and decoupling local agricultural practices from environmental degradation; Goal 13 – Climate action, by building ecosystem resilience to climate change and mitigation greenhouse gas (GHG) emissions, and Goal 15 – Life on land, through its LDN focus, strengthening governance structures, including participatory approaches regarding water and land resources management, improving habitat to biodiversity, improving water quality, and reducing pressures to KBAs/IBAs by promoting sustainable production practices and enhancing ecosystem connectivity in their surrounding. UNDP report on SDG integration³⁷ and the first Turkmenistan SDG Voluntary National review³⁸ find that improving resilience of Turkmenistan through adaptation to climate change of rural agriculture sector represents one of the key SDGs accelerators.

3.8 Stakeholder engagement, partnerships and coordination

187. The successful implementation of the project will largely depend on the effective communication and coordination with the multiple project stakeholders and the implementation of mechanisms to ensure these stakeholders' participation. The key national and sub-national stakeholders include the Ministry of Agriculture and Environmental Protection, State Committee on Water Resources including the province level sub-divisions (Production Departments) of "Dashoguzsuvkhodzhalik" and "Lebapsuvkhodzhalik," as well as the water management entities operating the Tuyamuyun reservoir (partially represented by Uzbek authorities). For the regional water management related aspects, the project will work with IFAS and representatives of the Interstate Commission on Sustainable Development (ICSD) and Dashoguz branch of the Executive Committee of IFAS, with Central Amudarya Department of the Association Basin Water Management (BWO). The project will implement comprehensive land, water resources assessments and biodiversity surveys, involving

³⁷ <https://www.eurasia.undp.org/content/rbec/en/home/library/sustainable-development/summary-of-findings-from-sdg-MAPS-missions.html>

³⁸ https://sustainabledevelopment.un.org/content/documents/24723Voluntary_National_Review_of_Turkmenistan.pdf

specialists from a wide array of research and academic institutes from the Academy of Science, the National Institute of Deserts, Flora and Fauna, the Turkmen Agricultural Institute in Dashoguz, the Turkmen State Pedagogical Institute in Turkmenabat, the Engineering and Technological University of Turkmenistan, the Turkmen Agricultural University, the Turkmen State Water Management research Production and Design Institute “Turkmensuvylymtaslama”; the Design Institute “Turkmengiprozem”. Private sector will be engaged directly in project activities, at local level the project will work with private livestock farmers, water users other farmers associations and daikhan farms and will engage representatives of the Union of Industrialists and Entrepreneurs of Turkmenistan. Biodiversity related activities will be conducted with the support of the Nature Conservation Society, the Society of Hunters and Fishermen and the Protected Areas management units and staff. The NGOs will be involved in training, awareness activities and the project will work with the NGO “Bosfor”- a branch of Youth Union, the NGO “Ynanch-Vepa” a major player in promoting sustainable natural resource use among NGO community and local levels CBO and the NGO “Tebigy Kuwwat” a sub-division of Nature Protection Society of Turkmenistan. The project will deploy participatory approaches engaging local authorities at district (etrap) and province (velayat) levels, local communities, farmers, water users, daikhan associations. The project’s Stakeholder Engagement Plan includes information on roles and responsibilities of the stakeholders in the project implementation.

188. In addition to the synergies and coordination highlighted, the project will explore cooperation opportunities with the new GIZ Programme “Integrative and Climate Sensitive Land Use in Central Asia” (2021-2024), potentially on : (i) Integrated Land Management and multi-stakeholder engagement under Output 1.1. (ii) Training sessions on LDN target setting (iii) Cooperation with the activities under Uzbekistan’s component, in view of joint programming for identification/strengthening of the ecological corridors for the migration of wild ungulates.

189. Furthermore, the project will coordinate with the Uzbekistan UNDG GEF “ Project Conservation and sustainable management of lakes, wetlands, and riparian corridors as pillars of a resilient and land degradation neutral Aral basin landscape supporting sustainable livelihoods” and a number of cross border approaches have been included under Output 1.3 (aiming at harmonization of water management approaches based on IWRM principles), Output 1.1. (harmonization and knowledge exchange regarding the methodologies and best practices in setting LDN voluntary targets at regional level, and introducing LDN principles in land use planning and Output 2.1 (cross-border programming for the facilitation of migratory routes of wild ungulates.

190. Strengthening extension services will include a close coordination with another UNDP implemented project namely the new Adaptation Fund Project “Scaling Climate Resilience for Farmers in Turkmenistan” implemented in partnership with the Ministry of Agriculture and Environment Protection, aiming at building resilience to climate change among the emerging class of small and medium size private farmers in Turkmenistan, including women farmers, strengthening the agriculture extension services and transitioning towards resilience agriculture practices. Due to ample synergies between the two projects a number of joint activities will be organized under KM Component 3: the trainings of 50 extension officers and joint awareness sessions. The knowledge generated under both projects will be shared through the online platforms to be set up by the Adaptation Fund project.

191. The coordination with the FAO project “Integrated Natural Resources Management in Drought-Prone and Salt-Affected Agricultural Production Landscapes in Central Asia and Turkey (CACILM 2)” is envisaged in terms of knowledge sharing and learning. The overall objective of “CACILM 2” is to scale up integrated natural resources management (INRM) in drought prone and salt affected agricultural production landscapes in the Central Asian countries and Turkey. There are ample opportunities for synergies. This GEF project has built its strategy on some of the results of CACILM I and it will continue learning from and cooperate with the CACILM II project tested methods, during the implementation phase, in view of sharing knowledge and good practices, harmonizing approaches and advocating for more sustainable agriculture practices

192. The project will also build on the results of the Project of the Federal Ministry for Environment, Nature Conservation and Nuclear Safety of Germany (BMUB): Central Asian Desert Initiative (CADI) – Conservation and sustainable use of deserts in Turkmenistan, implemented by Ministries of Agriculture and Environment Protection of Turkmenistan, Kazakhstan, Uzbekistan, Michael Succow Foundation and University of Greifswald (Germany) (possibly to be extended until end 2022). CADI project results have informed this project’s strategy, e.g. good practices in the inventory of wild ungulates, inventories of flora and fauna conducted in Gaplanyr Reserve and the knowledge generated during the process of nomination of the deserts of the temperate zone of Central Asia for inclusion in the UNESCO World Heritage List.

193. Last but not least, the project will further coordinate with the UNCCD and will explore innovative software aiding LDN centered integrated land use planning. For example, the project will explore the feasibility to make use of the Innovative Land Use Planning software that is promoted by UNCCD through open source data and will be selected as a result of the

recent GEO-LDN Technology Innovation Competition, whose results will be final during the first quarter of 2021³⁹. Placing LDN at the centre of land use planning can be challenging, as it was reported by the UNCCD Science-Policy Interface (SPI)⁴⁰. This “no net loss” land use planning module would help users to map anticipated future impacts of land use decisions for a given area.

3.9 Gender equality and women’s empowerment

194. According to the UNDP Gender Marker Rating, the project is categorized as GEN2: gender equality as a significant objective. During the PPG, a gender analysis for the prioritized landscape and a detailed Gender Action Plan (included as Annex 18) were developed to ensure gender mainstreaming in the project; specific gender-based indicators will be used for monitoring and a gender specialist will be part of the Project Management Unit (PMU) to facilitate implementation of the Gender Action Plan.

3.10 Risks to project success and social/environmental safeguards

195. Risks to project success and mitigation measures

196. As per the standard UNDP requirements, the Project Manager (with the support of M&E specialist) will monitor risks quarterly and report on the status of risks to the UNDP Country Office. The UNDP Country Office will record progress in the UNDP ATLAS risk log. Risks will be reported as critical when the impact and probability are high (i.e., when impact is rated as 5, and when impact is rated as 4 and probability is rated at 3 or higher). Management responses to critical risks, as well as environmental and social grievances will also be reported to the GEF in the annual PIR. The detailed risk management strategy for the project is included in *Annex 7: UNDP Risk Register*. In addition, the project will develop a COVID-19 Strategy and agree on the measures to mitigate any implementation delays that may result due to potential reinstatement of the COVID-19 related restrictions. UNDP has issued corporate guidance for “Managing programmes and projects in the age of Covid-19” and these guidelines may be included in the Project COVID-19 Response Strategy. This Strategy will be presented and approved at Inception Workshop along with the main health safeguards that will be implemented during the implementation to protect people and environment and prevent the virus spread (i.e. use of masks, social distancing, remote meetings whenever possible; remote field monitoring as much as possible).

197. Social and environmental risks and safeguards

198. Overall project risk categorization is *Moderate*. The project activities are designed ensuring minimal or no risks of adverse social or environmental impacts. During the project design stage, the social and environmental screening was completed (*Please see Annex 5: Social and Environmental Screening Procedure/SESP*). The project has *upstream* and *downstream* type of activities, deemed to have the potential to trigger specific social and environmental safeguards principles and standards, due to the potential risks on people and environment. The first type of “upstream” activities are for example project’s supported policy interventions and planning of land, water and biodiversity resources (e.g. under Output 1.1.) may influence the project’s diverse “downstream” interventions in the targeted regions, such as the implementation of SLM demonstration activities (Output 1.2, Output 1.3, Output 1.4, Output 2.3.) or the project’s work on strengthening PAs regimes and designation of new PAs (Output 2.1, Output 2.2) and establishment of ecological corridors (Output 2.3). This, ultimately, may result in some limitation of local communities’ access to natural resources that may disproportionately affect the rural poor.

199. The SESP (*Annex 5*) was finalized during the project preparation, as required by UNDP’s Social and Environmental Standards (SES). The SESP identified 15 risks that could have potential negative impacts in the absence of safeguards. Based on their likelihood and impact the category of each risk has been estimated, resulting in 14 Moderate risks and 1 Low risk. All project risks are included in the Atlas Risk Register (Atlas Risk Register Annex 7- includes all the risks identified through SESP and other risk assessments.). The management measures are captured in the Environmental and Social Management Framework prepared at PPG stage (*please see Annex 30-annexed as a separate report*).

200. The project will deploy different mechanisms to manage these risks and address social and environmental safeguards. Firstly, during the project inception stage the project team will reinforce agreements with the daikhan associations or other

³⁹ <https://www.unccd.int/news-events/competition-design-land-use-planning-software-land-degradation-neutrality>

⁴⁰https://knowledge.unccd.int/sites/default/files/2019-08/UNCCD_SPI_2019_Report_1.2.pdf

local authorities, and will seek to validate the targeted project demonstration sites, considering the outcome of the daikhan association restructuring process that was led by the government recently, that may have contributed to some associations merging. The selected sites will be validated and potential adverse impacts of the project activities will be re-assessed. The new screening and/or assessment (as needed, as per SES requirements) of each project demonstration site for the proposed activities will be implemented prior to the implementation to ensure that any impacts are identified, significance of risks established and management measures selected. The management measures can be incorporated in the project's Environmental and Social Management Plan ESMP and monitor appropriately. Starting with the project inception, the project will conduct a Strategic Social and Environmental Assessment (SESA) with the aim of integrating social and environmental consideration into its "upstream" planning and policy support activities. This will include primarily the activities related to LDN compatible land use planning and the project's support to policy development under Output 1.1 as well as other planning activities e.g. pastures management plans under Output 1.4 and planning for PAs management plan. In addition, screening and targeted assessments at site, will be deployed for specific risks when the full extent of limited impacts cannot be readily predicted.

201. The "downstream interventions" will be subject to screening and assessments at each site, as per SES requirements, in order to identify potential social and environmental impacts of the proposed demonstration activities, followed by management plans as needed. Other demonstration activities for example under Output 1.2 or any undefined activities (i.e. where location is not yet established) or when the extent of the limited risk impact cannot be readily assessed, will be subject to targeted screening and assessment of potential economic displacement (and other safeguards), to be carried out by the qualified project specialists in a participatory manner together with the affected stakeholders. If determined necessary by the targeted assessment, then a standalone management plan (such as the Livelihoods Action Plan) will be prepared to capture the appropriate risk management measures. Management of potential risk of economic displacement safeguards triggered by activities targeting the expansion of the PAs (Output 2.2.) will be managed through the Process Framework (please see Annex 16 Stakeholders Engagement Plan), enlisting the support of the Local Advisory Committees (People Councils), project qualified experts as needed. Project Framework assessments can be carried out together with the biodiversity inventories and other socio-economic assessments, as needed. to support participatory engagement of local communities in affected areas. For all the envisaged interventions, the meaningful and inclusive engagement of local communities will be supported by the implementation of the Stakeholders Engagement Plan and Gender Action Plan.

202. As the project activities include close engagement with local communities, upon inception, the project will also develop clear procedures and safeguards to prevent the spread of COVID-19. These can include use of remote methods when possible, protective equipment, maintaining social distancing, and other measures recommended by WHO and national authorities. These safeguards will be conveyed to all partners, third parties and contractors. In case of potential reinstatement of COVID 19 restrictions and if such safeguards cannot be put in place, the project will suspend the local activities until a time when appropriate safeguards can be implemented. The project will set up a Grievance Redress Mechanism (Annex 16 Stakeholder Engagement Plan) to allow those that might have a complaint and/or grievance to be able to communicate their concerns and/or grievances through an appropriate process. The project level Grievance and Redress Mechanism roles and responsibilities are delegated to the Project Board/Local Project Committees. The Complaints Register and Grievance Redress Mechanism are to be used as part of the project and will provide an accessible, rapid, fair and effective response to concerned stakeholders, especially any vulnerable group who often lack access to formal legal regimes. The project will make sure that each target site will be screened for potential impacts on natural habitats as part of the site selection process. Screening will involve consultation with local authorities and other stakeholders. Where any risks are identified, appropriate reduction or mitigation measures will be employed.

3.11 Innovativeness, sustainability and potential for scaling up

203. Innovativeness. Turkmenistan's focus on innovation in agriculture and water sectors is embedded in several national policies and programmes. The national programme "Fundamental Directions of Economic, Political and Cultural Development of Turkmenistan in the period up to 2020" calls for the implementation of sustainable land use in agriculture; state supported activities include innovation in irrigation and agricultural practices. The Water Code further encourages the use of innovation and water conservation measures, whereas the National Economic Programme of Action on Adaptation and Mitigation for 2016-2020 calls specifically for innovation in the management of irrigation and drainage water and for climate resilient land use practices aimed at reducing vulnerability of the sector. The project's innovative strategy is incremental in that it leverages Key Biodiversity Areas (KBAs/IBAs) within the wider landscape as the focal points for integrated sustainable land use management with biodiversity benefits from mainstreaming. The project includes

innovative measures implemented together with local natural resources users, expected to bring about change and support the shift towards a more sustainable use of natural resources.

204. a) *Integrated LDN compliant integrated land use management*: The project is turning the LDN concept into practice for the first time in Turkmenistan and will generate new and innovative approaches to multi-sector land use planning based on remote sensing data in mapping and geospatial analysis, testing and implementation of LDN compatible land use planning in four priority districts in Dashoguz and Lebap provinces. The project will explore the possibility of using the software tool for the implementation of “*neutrality mechanism*” which is expected to be selected by the UNCCD in 2021, part of the GEO-LDN Competition- an international technology innovation competition to design and build software analytics solutions to support more transparent and well informed land use decisions at the local and national levels⁴¹. The resulting “Neutrality Maps” from using such an innovative tool would be extremely useful, as it will allow visualisation and quantification of gains (where interventions are planned to reverse past land degradation), stable areas (where land based natural capital can be maintained through good management) and anticipated losses (where realistically it is determined that land degradation may not be avoidable).

205. No net loss would occur when the planner is able to generate a scenario where all anticipated losses can be counterbalanced with planned gains for each land type, while the integrity of all other land is maintained. b) *Integrated water management*: The project’s integrated approach is aligned with IWRM and LDN concepts, and will provide concrete demonstration of efficient water use in irrigated areas at 4 district levels; will use innovative irrigation technologies (such as laser leveling and drip irrigation), targeted software such as the crop-water productivity model *Aquacrop (FAO)*; The assessments of water use patterns and hydroclimate modelling will result in recommendations for a balanced allocation among multiple water users, that account for climate change predicted water shortages and that will maintain the ecological integrity of the water based ecosystems; c) *Crop resilience to salinization and restoration of marginal lands* : The project will test water use of drainage mineralized water and salt tolerant crops and will develop a Bio-saline agricultural model for sustainable and integrated use of marginal mineralized water resources in salt affected soils; and will implement practical actions for efficient water saving and agricultural practices that will not deplete soil condition;

206. d) *Restored desert pastures, saxaul forest and assisted regeneration of tugai thickets* : The innovative element will consist in the application of diverse pasture and forests management measures aligned with the “prevent-reduce-restore” hierarchy, based on the LDN baseline assessments and promotion of biodiversity-friendly production practices and ecological corridors and buffer zones around PAs and KBAs/IBAs. e) Innovative SLM measures, IT, policy and business solutions through the project’s Innovation Challenge (Output 1.2/Act 1.2.4) will promote innovative business solutions, innovative technologies, policies, regulations and financial instruments aiming at improving land governance and reversing land degradation. f) *Agricultural Radio Extension Services* will be explored by the project, based on initial “on demand” 20 Radio Talk Shows to be organized in partnership with the State Committee on Television, Radio Broadcasting and Cinematography, responding to farmers needs including a segment for women farmers.

207. Sustainability and Scaling-Up: The project aligns with the STAP guidance (GEF/STAP/C.56/Inf.04) on achieving sustainable outcomes, including the following approaches: (i) Designing multi-stakeholder processes to engage key stakeholders, build stakeholder trust and motivation, and incentivize core actors for sustainable wetlands, lakes and riparian zones management (ii) Outlining a theory of change that recognizes the need for policy and financing frameworks’ coherence and participatory approaches and emphasizes diversity and adaptive learning. Institutional sustainability will be ensured by promoting interagency cooperation. Under Output 1.1 the project will set up an Inter-Sectorial LDN Working Group under the Inter-Sectorial Commission on Environmental Protection under the chairmanship of the Ministry of Agriculture and Environment Protection. Due to its focus on LDN , the project will set up a national platform for information exchange among representatives of all interested parties connected to land degradation processes and able to contribute to the achievement of LDN. Moreover, the project will support the development of the National Strategy and Action Plan to Combat Desertification, a national policy that will ensure sustainability. The Strategy and Action Plan will be embedding the national LDN targets and regional LDN targets in Dashoguz and Lebap regions (showcasing the project’s good practices) therefore, it will include guidelines, and actions for LDN compliant integrated land use planning and SLM measures and institutional responsibilities to achieve land degradation neutrality.

208. To demonstrate environment sustainability, the project uses innovative approaches to mainstream biodiversity in production zones and this is coupled with the use of protected areas as key mechanisms for conserving the most critical

⁴¹ <https://www.unccd.int/news-events/competition-design-land-use-planning-software-land-degradation-neutrality>

ecosystems within the wider landscape. The project strategy addresses the root causes and barriers by supporting resource managers' access to information about biodiversity distribution and about the carrying capacity of lands for livestock and crop production. In addition, the project strategy aims to develop the necessary capacity for implementing an integrated land use approach that integrates biodiversity in the surrounding geographies, while supporting sustainable livelihoods. Component 1 of the project focuses on addressing the degradation of land resources important for critical ecosystems and sustainable livelihoods. Along Amudarya river there are intensive agricultural production in the small areas of this arid landscape that have access to irrigation. Therefore enhancing the sustainability of various forms of agricultural production is key for addressing the large-scale land degradation that exists in this region, which is primarily driven by poor land and water management, such as poor irrigation techniques, overgrazing, unregulated forest use and cutting. Key to the integrated approach is appropriate integrated land use planning to ensure the long-term sustainability of land uses for different soil types, ecosystems, and climatic conditions.

209. The integrated approach supports multiple benefits, including improved biodiversity conservation through biodiversity-friendly land uses in and on the margins of KBAs/IBAs and efficient water management. For these high value arid ecosystems it is critical that the agricultural production (both livestock and crops) be undertaken in an integrated, well-planned manner that ensures biodiversity is not threatened, and that land resources are not degraded. The first component of the project supports resource managers and resource users to identify high priority degraded lands, and support the restoration of these lands. Component 2 of the project focuses on ensuring that the PAs in the wider landscape function as they were intended, in order to conserve biodiversity and serve as a source of critical ecosystem services beyond their boundaries. There are 2 existing protected areas under the scope of the project, covering approximately 1,077,584 ha in total. The project will support strengthening the management effectiveness of the PAs through individual capacity development for the PA staff, and the provision of critical management infrastructure and equipment (e.g. for biodiversity monitoring, enforcement, etc.). The project will also support the financial sustainability of the PAs, including business planning. To further strengthen the conservation of biodiversity in the targeted KBAs/IBAs, the project will expand PA coverage by an additional 60,000 ha (increasing PA coverage of targeted KBA by ~5%), either through the expansion of existing PAs, or the establishment of new PAs including Pitnyak upland and the heights of Altykarash, Zheldi and Muyger, part of the water areas of the Sultansanjar and Koshbulak reservoirs and Lake Zengibaba-Goyungirlan (KBAs/IBAs).

210. The project has a great potential for scaling-up at the national level. The development and implementation of the Integrated Water Management Plans and the Integrated LDN compatible Land Use Plans in the four districts are demonstrating resource efficiency and land use planning that will contribute towards achieving land degradation neutrality, replicable to every district. The manuals and guidelines produced by the project are expected to be formally approved and institutionalized, to provide for enduring and scalable results. The wealth of information, lessons learned, knowledge products, biodiversity, water and land management databases will provide useful evidence for policy making. Partnerships with other projects such as Adaptation Fund "Scaling Climate Resilience for Farmers in Turkmenistan" will offer the opportunity of sharing good practices tested in Dashoguz and Lebap and lessons learnt via the platform for the provision of long term agricultural extension services to be set up in partnership with the Union of Industrialists and Entrepreneurs in Turkmenistan. Furthermore, the project knowledge management approaches will actively support participation in regional and global knowledge sharing networks (such as UNCCD/WOCAT). Finally, the project will prepare a *Scaling Up and Replication Strategy*, to be approved by the Project Board and implemented by the member stakeholders, ensuring that the valuable knowledge generated during the project implementation, documenting the trailblazing efforts that drive progress towards LDN and integrated land-water management in production zones, will be replicated and scaled up to other regions of Turkmenistan.

3.12 Knowledge management

211. The project will promote Knowledge Management approaches that targets two levels of knowledge management activities, strategies and products. In Turkmenistan, at local and national levels, the project will actively contribute towards the development of a critical mass of understanding and awareness about awareness and knowledge gaps, as reflected by the baseline awareness questionnaires conducted during the PPG. Strengthened stakeholders' technical knowledge, awareness and participation will ensure sustainability of project's results. The second level is the regional level, where the project will act as an active contributor to strengthening IFAS institutions and supporting negotiations on sustainable regional water management, while leveraging the knowledge generated within the project and actively supporting integrated land-water approaches into regional programming. The project team will ensure extraction and dissemination of lessons learned and good practices to enable adaptive management and upscaling or replication at local and regional scales. Results will be disseminated to targeted audiences through relevant information sharing fora and networks. The project will

contribute to strengthened evidence-based policy making and to knowledge sharing through different KM platforms for the benefit of similar projects in the region. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to the project. The project will identify, analyse and share lessons learned that might be beneficial to the design and implementation of similar projects and disseminate these lessons widely. (Please see Annex17 Knowledge Management Plan)

3.13 South-south and triangular cooperation

212. Learning opportunities and technology transfer from peer countries will be further explored during project implementation. An exchange of experience on LDN targets will be facilitated by the project through the organization of a three-day regional workshop (Act. 1.1.2), with the participation of UNDP GEF and UNCCD experts, aiming at discussing best practices in establishing national and subnational level LDN targets and benefiting from exposure to other international good practices in achieving land degradation neutrality at national and regional levels. Furthermore, dialogue and exchange of experience with farmers in Uzbekistan Karakalpakstan and Bukhara provinces, will be facilitated by the organization of knowledge exchange visits jointly with the GEF project “ Conservation and sustainable management of lakes, wetlands and riparian corridors as pillars of a resilient and land degradation neutral Aral Sea Basin landscape supporting sustainable livelihoods”, benefiting participating local communities, farmers, and Water Users Associations (WUAs), local and national authorities. To present opportunities for replication in other countries, the project will share knowledge and case studies through the available platforms such as the Regional Environmental Center for Central Asia CAREC Knowledge Hub, Central Asian Countries Initiative for Land Management FAO CACILM and the World Overview of Conservation Approaches and Technologies WOCAT platforms. In collaboration with IFAS, the project will support the organization of a Special Platform for Multilateral Cooperation on environment and water issues, addressing countries’ priorities embedded within the framework of the Joint Communique of the Council of the Heads of the State-Founders of the International Fund for Saving the Aral Sea IFAS (2018), and under the Regional Environmental Protection programme for Sustainable Development of Central Asia (REP4SD CA) adopted by the Ministers of Environment of Central Asia States in Nukus, Uzbekistan (2019).

IV. PROJECT RESULTS FRAMEWORK

This project will contribute to the following Sustainable Development Goal (s): Goal 1 – End poverty in all its forms everywhere; Goal 5 – Achieve gender equality and empower all women and girls; Goal 6 – Ensure access to water and sanitation for all; Goal 8 – Decent work and economic growth; and Goal 15 – Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss.

This project will contribute to the following national programmes: (i) National Programme for Socio-economic Development of Turkmenistan (2011-2030); (ii) Programme of the President of Turkmenistan for the Socio-economic Development of Turkmenistan 2019-2025; (iii) Programme for the development of the Agricultural Complex of Turkmenistan 2019-2025

This project will contribute to UNDP Global Strategic Plan Outcome 1: Growth is inclusive and sustainable, incorporating productive capacities that create employment and livelihoods for the poor and excluded

This project will be linked to the UN Sustainable Development Cooperation Framework 2021-2025 (signed on 14 March 2020) Priority 2: Inclusive, green and sustainable economic growth, Outcome 3: “By 2025, there is effective design and implementation of disaster risk reduction and climate adaptation and mitigation measures, enabling a more rational use of resources, increased resilience and a green economy transition”

	Indicators	Baseline	Mid-term Target	End of Project Target	Means of Verifications Assumptions
Project Objective: To promote land degradation neutrality, restore and improve the use of land and water resources in Turkmenistan’s Amu Darya watershed to enhance the sustainability and resilience of livelihoods and globally significant ecosystems.	Indicator 1 (GEF 7 Core Indicator 1) Terrestrial protected areas created or under improved management for conservation and sustainable use (ha) (sum of Indicator 19 and Indicator 20 below)	0 ha	Flora and fauna Inventories and habitat mapping necessary for the preparatory work completed	1,137,554 ha ⁴²	Means for verification: Project technical reports, METT scorecards validated by the project final evaluation. Ministry of Agriculture and Environmental Protection (MAEP) official data. GIS analysis and data generated by the project. Assumptions: Interest from the central government, private sectors and farmers in biodiversity conservation; No major negative impacts on the availability of the state budget for the protection and management of new and existing PAs.
	Indicator 2 (GEF 7 Core Indicator 4) Area of landscapes under improved	0	Baseline methodologies agreed. Expert mapping necessary for the preparatory work completed	746,303 ha ⁴³	Means of verification: Project midterm and final evaluation report; MAEP official data; GIS supported analysis and expert mapping; Local

⁴² Sum of existing PAs under the project scope: (i) Gaplanyr State Nature Reserve 926,203 ha (includes Sarygamish Sanctuary 541,466 ha) and Shasenem Sanctuary (109,002 ha); Amudarya State Nature Reserve 151,351 ha which includes Amudarya Reserve territory (48,351 ha) and its Kelif Sanctuary of 103,000 ha); (ii) Area of the newly proposed PAs/Sanctuaries 60,000 ha (Pitnyak Nature Sanctuary: 40,000 ha and Zengibaba Lake Sanctuary 20,000 ha)

⁴³ Sum of: 500,000 ha of pastureland (Output 1.4); 100,000 ha irrigated land (Output 1.3); 146,303 ha (Output 2.3) (represents 50% of 292,607 ha under Output 2.3; calculated to avoid double counting)

	practices (hectares, excluding PAs) (sum of Indicators 11; Indicator 12 and 50% of Indicator 26 below)				level official statistics (district and province data). Project reports and documentation, e.g. annual reporting in PIR; Written agreements with Daikhan associations/daikhan farms and local authorities, including monitoring scheme; Successful completion of project activities for relevant project components, as verified by the MTR and TE. Assumptions: Environmental/climate variability within normal range. Uptake of SLM practices and integrated land use planning. Existing interest from local communities to participate in project activities.
	<p><u>Indicator 3 (GEF 7 Core Indicator 11)</u> Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment (#): # of <u>public sector employees</u> with improved capacity for LDN, SLM, integrated land use # of <u>local resource users and agricultural producers</u> with improved awareness and technical knowledge on LDN, SLM and sustainable water use, alternative livelihoods, benefiting from the project activities # of <u>Grants Micro-scheme beneficiaries</u></p>	N/A (zero beneficiaries)	<p>Midterm target Total: Total: 4,150 (1,245 women and 2,905 men) <u>Public sector employee:</u> 50 public sector staff at national and local level of which at least 30% women (15 women and 35 men) <u>Local resource users and agricultural producers:</u> Total 4,000 (1,200 women and 2,800 men) <u>Grants Micro-scheme beneficiaries:</u> N/A (too early for accrued benefits) <u>PA staff/environment officials:</u> 100 PA staff with enhanced capacity (30 women and 70 men)</p>	<p>EoP target Total: 10,150 (3,045 women and 7,105 men) <u>Public sector employee:</u> 100 public sector staff at national and local level of which at least 30% women (30 women; 70 men) <u>Local resource users and agricultural producers:</u> Total 9,750 (2,925 women; 6,825 men) <u>Grants Micro-scheme beneficiaries</u> 100 (30 women; 70 men) <u>PA staff/environment officials</u> 200 PA staff with enhanced capacity (60 women and 140 men)</p>	<p>Means of verification: Project reports validated by GEF Midterm and Terminal evaluation. Official records of the public events; Official national and local authorities directly participating in/benefiting from the project activities; Farmer and household surveys; Interviews with key stakeholders; records of radio/TV talk shows publicly available; other KM products publicly available. Assumptions: Local resource users and government officials of key project partners actively involved in project activities.</p>

	# of PAs staff/environment officials with enhanced individual capacity in biodiversity conservation and sustainable management, legal enforcement and patrolling.				
	Indicators	Baseline	Mid-term Target	End of Project Target	Means of Verifications and Assumptions
Component 1: Promoting Land Degradation Neutrality Outcome 1: Land degradation neutrality in Aral basin promoted, as evidenced through: - LDN-compatible land use in 760,000 ha of production landscape. - crop resilience to salinization improved in 10,000 ha - 50,000 ha of degraded pasture and forest land restored. - improved livelihoods of 9700 farmers (30% women) directly, with immediate	<u>Indicator 4:</u> Existence of baseline values for LDN indicators at national and region/province scale	N/A	LDN working groups set-up (30% women) and LDN baseline collection methodologies elaborated	<ul style="list-style-type: none"> • Baseline assessment for LDN indicators at national level • Baseline assessment for LDN indicators at province level in Dashoguz and Lebap provinces 	Means of verification: Province and national level data on LDN baseline; interviews with stakeholders; GIS analysis of targeted project intervention areas; MTR and final evaluation reports. Assumptions: Partnerships between UNCCD and Gov of Turkmenistan for LDN National Target Setting; Land degradation issues high among local/regional priorities;
	<u>Indicator 5:</u> Prioritized policies and regulations to facilitate LDN implementation	Incomplete framework to enable LDN implementation	Policy and regulatory amendments developed and submitted to the Ministry of Agriculture and Environment Protection for approval	- National Action Plan to Combat Desertification showcasing Dashoguz and Lebap LDN regional target setting, approved and under implementation. -Bylaws (gender sensitive) developed under the Law on Pastures to include regulations for sustainable pasture use and monitoring submitted for approval. - Amendments to the Land Code introducing LDN concept and regulations for the counterbalancing	Means of verification: MAEP official data; UNCCD reports Assumptions: Partnerships between UNCCD and Gov of Turkmenistan for LDN National Target Setting; Land degradation high among local/regional priorities;

replication potential for 46,800 people.				mechanism submitted for approval.	
	<u>Indicator 6:</u> Status of integrated land use planning in Aral Sea Basin landscape	No integrated land use planning	Integrated land use planning working group under the chairmanship of the State Land Management Service under the Ministry of Agriculture and Environment Protection (MAEP) set up Criteria and methodologies defined for : mapping of degraded lands in targeted provinces, identification of priority land and forest restoration zones and identification of buffer areas around PAs, KBAs/IBAs	4 Integrated land use plans completed, adopted and under implementation for 4 targeted districts in Dashoguz and Lebap provinces	Means of verification: Existing official information at province level and land use plans under implementation; Interviews with stakeholders and province (region) authorities; MTR and final evaluation reports; Assumptions: Land degradation high among local/regional priorities; existing awareness and acknowledgement on the importance of LDN compliant integrated land use planning; exiting interest from the national and province level authorities (kyakimlik) to implement integrated land use planning.
	<u>Indicator 7:</u> # of landscapes or jurisdictions with LDN regional voluntary targets, action plans and monitoring systems in place	0	Criteria and methodologies established for regional LDN target setting in the targeted provinces	2 (LDN regional targets set in Lebap and Dashoguz provinces	Means of verification: UNCCD reports; LDN National Monitoring and Action Plan reports on LDN regional target in Dashoguz and Lebap provinces; National Project reports and results validated by final evaluation; Assumptions: Interest from the national and regional government, private sectors and farmers in achieving land degradation neutrality through a combination of Sustainable Land Management (SLM) measures
	<u>Indicator 8 (GEF Core indicator 3.Sub-indicator 3.1)</u> Area (ha) of degraded arable land restored for improved ecosystem services	0 ha Baseline to be determined at inception.	Baseline and methodologies developed.	4,700 ha	Means of verification: Field/plot surveys and verification of field monitoring fiches, validated by project terminal evaluations. Project reports; GIS analysis of targeted project intervention areas. Assumptions: There is interest among farmers (dekhan farms), forestry enterprises and pasture associations and local authorities to apply SLM

					measures and forest regeneration in the production zones
	<u>Indicator 9 (GEF Core indicator 3/Sub-indicator 3.2) : Area (ha) of forest restored for improved ecosystem services.</u>	0 ha Baseline to be determined at inception.	Baseline and methodologies developed.	5,300 ha (5,000 ha under management planning to restore degraded saxaul ecosystem 300 ha of tugai forest restored)	Means of verification: Field reports/field verification reports validated by Project terminal evaluation report; Approved forest management plans included in the local forestry enterprises/ local authorities plans. Assumptions: Environmental/climate variability within normal range. Increased uptake of SLM practices and integrated land use planning; Existing interest from local communities to participate in project activities.
	<u>Indicator 10 (GEF Core indicator 3/Sub-indicator 3.3): Area (ha) of land where degradation is reduced and pasture habitats restored as a result of phyto-reclamation evidenced by:</u> <ul style="list-style-type: none">• Shrub and semi-shrub vegetation cover• Success of pasture establishment• Use of distant pasture	0 ha Baseline: <ul style="list-style-type: none">• Clay deserts without shrub vegetation• Sandy pastures subject to deflation• Distant pastures not in use (Baseline to be established/refined at the inception stage)	Baseline and methodologies developed.	50,000 ha <ul style="list-style-type: none">• 50% vegetation cover increase observed on clay desert pastures (stable plant communities of black saxaul <i>Haloxylon aphyllum</i> and chogon <i>Aellenia subaphylla</i> formed on formerly bare takyr soil)• 50% increase of vegetation cover observed on sandy pastures (proportion: 30% shrubs-60% semi shrubs-10% herbaceous vegetation)• At least 30% of sown plants in generative growth stage by end project• 50% increase of distant pastures in use	Means of verification: Field reports/field verification of pasture monitoring schemes validated by project terminal evaluation; Pasture management plans for the restoration of degraded pasture areas (under implementation). Assumptions: There is interest among farmers (daikhan association), private enterprises, farmers associations and local authorities to apply SLM measures and sustainable pasture management and use of distant pastures; there is available co-financing for the rehabilitation of water infrastructure (pasture water wells).
	<u>Indicator 11 (GEF Core Indicator 4 Sub-indicator 4.1): Area (ha) of sustainable pastureland regimes</u>	0 ha Baseline to be determined at inception.	Baseline and methodologies developed.	500,000 ha under sustainable use, linked to government investment plans	Means of verification: Official data from the province authorities; Field reports/field verification of pasture management plans and monitoring; expert mapping and georeferenced data validated by project GEF

	in production zones and buffer areas				terminal evaluation; Assumptions: There is increased awareness and interest among farmers (daikhan association), private enterprises, farmers associations and local authorities to apply SLM measures
	<u>Indicator 12 (GEF Indicator 4 Sub-indicator 4.3):</u> Area (ha) of irrigated arable land under efficient water management	0 ha Baseline to be determined at inception.	Detailed methodology and approaches for updating water management information in support of an improved water and crops management	100,000 ha under sustainable management, linked to government investment plans (<i>Efficient water management plans on 100,000 ha of irrigated areas in 4 targeted districts; It covers sustainable water management planning on 90,000 ha irrigated areas and crop resilience plans demonstrated for 10,000 ha, linked to government investment plans</i>)	Means of verification: Project technical field monitoring reports. Ministry of Agriculture and Environmental Protection ameliorative expeditions data. Field monitoring. Midterm and Final GEF evaluation project reports. Assumptions: Government has a keen interest to rationalize water use among different economic sectors. There is sufficient awareness of the local water users (and farmers associations) on the water saving needs
	<u>Indicator 13.</u> Number of Water Users Groups in the 4 pilot districts capacitated to apply water saving irrigation technologies	0	2	4 Water Users Groups	Means of verification: Records of the local water production departments in targeted districts. Midterm and Final GEF evaluation project reports. Assumptions: Local water users are willing and interested to participate in project activities.
	<u>Indicator 14.</u> Area (ha) of irrigated crops with increased resilience to salinization, as evidenced by: <ul style="list-style-type: none"> Percentage of soil salinity reduction Percentage of water wastage at farm level 	0 ha Salinity baseline: <ul style="list-style-type: none"> 0.03- 0.10 (low salinity) on 5,000 ha 0.10-0.30 (moderate salinity) 3,000 ha 0.3-0.6 (strong salinity) on 2,000 ha Water wastage baseline:	Detailed methodology and approaches for updating water management information in support of an improved water and crops management	10,000 ha <i>(Efficient water and crops resilience to salinity demonstrated at 10% of the targeted 100,000 ha irrigated areas through, promotion of modern irrigation technologies, diversification of agricultural crops including: crop rotation, use of salt tolerant crops, agroforestry)</i> <ul style="list-style-type: none"> 15% reduction in soil salinity compared to baseline levels 	Means of verification: Project technical reports. Ministry of Agriculture and Environmental Protection ameliorative expeditions data. Field monitoring. Midterm and Final GEF evaluation project reports. Assumptions: There is sufficient awareness of the local water users (and farmers associations) on the water saving needs and technical knowledge and financial means (co-financing) to implement efficient water management in irrigated areas.

	<ul style="list-style-type: none"> • Soil productivity measured by humus content 	<ul style="list-style-type: none"> • m3 water losses/baseline to be set at project inception <p>Soil productivity baseline:</p> <ul style="list-style-type: none"> • Humus content <= 0.8 <p>(Baseline to be refined/validated at inception stage)</p>		<ul style="list-style-type: none"> • 15% reduction of water wastage compared to baseline • Humus content > 1.8 (by end of project) 	
	<p><u>Indicator 15 (GEF 7 Core indicators 6 Sub-indicator 6.1):</u> GHG emissions mitigated (tCO2-eq)</p>	N/A (project activities not under implementation)	No change (project outcomes and impacts not yet at stage where GHGs avoided/sequestered)	2,028,250 ⁴⁴	<p>Means of verification: Field/plot surveys. Project reports. Updated GEF7 Core Indicator 6; validated by the final evaluation and integrated in government UNFCCC reporting.</p> <p>Assumptions:</p> <ul style="list-style-type: none"> -Per assumptions in EX-ACT tool - Project activities are implemented in the manner foreseen in the areas planned
	<p><u>Indicator 16 (KM):</u> Level of information necessary for improved irrigation water management at farm level considering the climate change impacts and knowledge regarding the necessary water requirements of the lakes and wetlands ;</p>	<p>Insufficient knowledge of Water users sharing the same irrigation canals and collector drainage on efficient water management approaches; Limited knowledge of and access to water saving technologies.</p> <p>Poor technical knowledge on efficient water distribution and crop resilience to salinity measures</p> <p>Lack of information available on the required water volumes and minimum ecological flows by the lakes</p>	Detailed methodology and approaches for 1.updating water management information at district/etrap level and farm levels in support of an improved water use at farm/inter-farm level, 2.equitable share of the water resources among multiple water users and considering the required ecological flow necessary to maintain lakes, wetlands and riparian zones in Amudarya Basin.	<p>Increased level of information on efficient and sustainable water use in agriculture and for natural ecosystems as evidenced by:</p> <ul style="list-style-type: none"> • Comprehensive inventory of water use patterns, water losses and the realistic water requirements in agriculture sector in the targeted areas (for 100,000 ha of irrigated areas) available to water managers and water users. • Hydroclimatic scenarios and water economic models- 	<p>Means of verification: Strengthened data base of the Ministry of Agriculture and Environment Protection and State Committee on Water Resource, and project data validated by the GEF MTR and TE.</p> <p>Assumptions: Project does not encounter critical risk that will derail activities; Relevant water management related data can be achieved cost-effectively at etrap/district level and farm level.</p> <p>There is a stated and clear interest of the Government to improve water efficiency, facilitate consensus among multiple water users and reform water management sector.</p>

⁴⁴ GHG emissions avoided as a result of improved crop management (at 10,000 ha) and improved pastures (50,000 ha). Calculated using FAO Exact tool.

		and wetlands, necessary to maintain ecological integrity, especially under climate change predicted deficits.		<p>informed Sustainable Water Management</p> <ul style="list-style-type: none"> • Recommendations for optimization of water allocation among multiple water users, approved by decision makers • Water Management Plans covering 100,000 ha approved and under implementation. • Researched water requirements (minimum ecological flow) for lakes, wetlands and riparian zones in Amudarya Basin (within Turkmenistan side), is completed and accessible to end users and water managers. 	
	<p><u>Indicator 17 (KM):</u> Existence of formal guidelines and methodology on LDN and integrated land use planning, on SLM measures applicable for practical improvements of land management, use of mineralized drainage water and restoration of saline lands</p>	N/A	<p>Environmental data collected, methodologies elaborated and first drafts of different knowledge products are discussed with local and national authorities and other key project partners.</p> <p>Available UNCCD-promoted innovative LDN compliant land use planning module (Act 1.1.5) based on the results of the GEO-LDN Technology Innovation Competition.</p>	<ul style="list-style-type: none"> • Methodology for setting up regional LDN targets approved by the MAEP, showcasing Lebap and Dashoguz experience • Methodology for LDN compliant/compatible Integrated Land Use Planning at etraps/district level approved by the MAEP, showcasing Dashoguz and Lebap experience • Available innovative land use planning module centered on LDN principles (Act.1.1.5) • Guidelines on the development of sustainable pastures and forest management plans, to achieve LDN, for local 	<p>Means of verification Official correspondence with MAEP validating the formal approval of project's deliverables; Interviews with stakeholders; project reports validated through MTR and final evaluations.</p> <p>Assumption: There is interest towards adopting KM tools generated by the project and implementing a real positive change in land use planning practices</p>

				<p>natural resources users approved by MAEP</p> <ul style="list-style-type: none"> • LDN compatible Integrated Land Use Planning GIS based Concept available to land use decision makers • Integrated Bio-saline Agricultural Model for Sustainable and Integrated Use of Mineralized Water Resources and salt-affected soils • LDN Regional Workshop Proceedings Report entails an analysis of methodologies used by different countries during regional LDN target setting process. 	
	<p><u>Indicator 18:</u> Existence of capacity building events (attended by 30% women participants) on EO datasets interpretation, LDN, SLM and integrated land use planning for LDN working groups, decision makers and farmer groups</p>	N/A	<p>EO datasets interpretation guide; methodology for integrating different datasets (national metrics, global default datasets, other LD index) developed</p> <p>Gender sensitive Training materials developed</p> <p>Invitees lists developed (30% women)</p> <p>5 Capacity building events for LDN working groups</p> <p>5 Capacity building events on SLM and land use planning</p> <p>2 Farmers Field Schools</p>	<ul style="list-style-type: none"> • 10 capacity building events on EO datasets interpretation, LDN target setting and monitoring- to inform land degradation assessments, designed for decision makers at national and local levels • 8 capacity building events on SLM measures and sustainable agricultural practices and rural entrepreneurship • 8 training workshops for the Water user Groups (WUGs) on sustainable irrigation and water management • 4 training workshops on land-water legislation • 5 Farmers Field Schools • LDN Regional Workshop to share experience, generated knowledge, 	<p>Official workshop reports shared with participants and workshop evaluation forms.</p> <p>Project reports validated through MTR and final evaluations.</p> <p>Assumption: Continuous government commitment towards LDN and SDG 15.3; There is interest among land use decision makers and local natural resource users towards building their capacities for improved land management and participating in the project's activities.</p>

				challenges, and opportunities in LDN regional target setting.	
<p>Output 1.1 Integrated landscape plans for priority areas of Dashoguz and Lebap provinces (incl. mapping; long-term land restoration plans for priority areas in and around KBAs and associated agricultural landscapes; regional Land Degradation Neutrality (LDN) targets established and action plans and monitoring systems agreed for attaining them).</p> <p>Output 1.2 Investment in community-based restoration of degraded arable and forest lands in 2 provinces, including saxaul and/or sea buckthorn planting in degraded areas; introduction of salt-tolerant crop varieties, and facilitating natural regeneration of tugai forest, with high potential for income for local communities.</p> <p>Output 1.3 Efficient water management of irrigated land in 4 priority districts, incl: maintenance of water management infrastructure; operationalization of multi-stakeholder Water User Groups (involving local communities); introduction of best practice irrigation technologies.</p> <p>Output 1.4 Sustainable pasture management regimes in 4 priority districts introduced raising productivity of livestock management for local communities, incl: sustainable pasture management plans focusing on rotational grazing and efficient and sustainable livestock watering infrastructure</p>					
	Indicators	Baseline	Mid-term Target	End of Project Target	Means of Verifications and Assumptions
<p>Component 2: Securing Critical Ecosystems for Biodiversity and Ecosystem Services</p> <p>Outcome 2: Secured biodiversity status in >0.5 mln ha of KBAs in the Amu Darya basin, as evidenced by:</p> <ul style="list-style-type: none"> - non-deterioration of globally threatened species, including Egyptian Vulture, Saker Falcon, Dalmatian Pelican, Houbara Bustard, Cinereous Vulture, Ferruginous Duck. - Management effectiveness 	<p><u>Indicator 19</u> (GEF Core Indicator 1/Sub-indicator 1.1): Terrestrial protected areas created for Conservation and sustainable use (ha)</p>	0	Flora and fauna Inventories and habitat mapping necessary for the preparatory work completed	60,000 ha ⁴⁵	<p>Means of verification: Updated government (MAEP) reports/ National communications to CBD Project evaluation reports; Field mission reports validated by final evaluation Assumptions: No major negative impact on the availability of the state budget for the protection and management of new and existing PAs.</p>
	<p><u>Indicator 20</u> (GEF Core Indicator 1/Sub-indicator 1.2): Terrestrial protected areas under improved management for conservation and sustainable use (ha)</p>	0 ha	Flora and fauna Inventories and habitat mapping necessary for the preparatory work completed)	1,077,554 ha ⁴⁶	<p>Means of verification: Updated government reports/ National communications to UNCBD Project evaluation reports; Field mission reports; METT scorecards validated by the final evaluation; Assumptions: No major negative impact on the availability of the state budget for the protection and management of new and existing PAs.</p>
	<p><u>Indicator 21:</u> Change in the capacity of the management of key</p>	Gaplangyr State Nature Reserve	Gaplangyr State Nature Reserve (METT Score: 58)	Gaplangyr State Nature Reserve	<p>Means of verification: Project technical reports GEF terminal evaluation report; Field mission</p>

⁴⁵ Comprising: Pytnyak area (40,000 ha) and Zengibaba lake and surroundings (20,000 ha)

⁴⁶ Sum of the existing PAs under the project scope: (i) Gaplangyr State Nature Reserve (275,735 ha) and its Sanctuaries: Sarygamish Sanctuary (541,466 ha) and Shasenem Sanctuary (109,002 ha); (ii) Amudarya State Nature Reserve (48,351 ha) and its Kelif Sanctuary (103,000 ha).

<p>increased for targeted protected areas from ~20% to ~40%.</p> <p>- New protection mechanisms established covering additional 50,000 of currently unprotected KBAs, increasing PA coverage of KBA area in the target landscape by ~5%, to roughly 50%</p>	<p>Protected Areas to implement effective biodiversity conservation and sustainable management measures</p>	<p>(METT Score: 53)</p> <p>Amudarya State Nature Reserve</p> <p>(METT Score: 56)</p>	<p>Amudarya State Nature Reserve</p> <p>(METT Score: 61)</p>	<p>(METT Score: 64)</p> <p>Amudarya State Nature Reserve</p> <p>(METT Score: 67)</p>	<p>reports; METT Scorecards validated by mid-term and final evaluation;</p> <p>Assumptions: At least baseline funding is maintained; Continued political will to strengthen governance of biodiversity and ecosystem services through effective management PA System</p>
	<p><u>Indicator 22:</u> Stable status/ positive change in the population of globally significant biodiversity at the new designated PA.</p> <ul style="list-style-type: none"> • Great grebe (<i>Podiceps cristatus</i>) • Great pelican (<i>Pelecanus onocrotalus</i>) • Red crested pochard (<i>Netta rufina</i>) • Great cormorant (<i>Phalacrocorax carbo</i>) • Little cormorant (<i>Phalacrocorax pigmaeus</i>) • White egret (<i>Egretta alba</i>) • Grey heron (<i>Ardea cynerea</i>) • Red heron (<i>Ardea purpurea</i>) 	<p>Baseline to be established during inventories</p> <p><u>Pytniak Sanctuary (proposed IUCN IV category- Sanctuary 40,000 ha)</u></p> <ul style="list-style-type: none"> • Great grebe (<i>Podiceps cristatus</i>) • Great pelican (<i>Pelecanus onocrotalus</i>) • Red crested pochard (<i>Netta rufina</i>) • Great cormorant (<i>Phalacrocorax carbo</i>) • Little cormorant (<i>Phalacrocorax pigmaeus</i>) • White egret (<i>Egretta alba</i>) • Grey heron (<i>Ardea cynerea</i>) • Red heron (<i>Ardea purpurea</i>) <p><u>Zengibaba-Goyugirlan Sanctuary ((proposed IUCN IV category- Sanctuary 20,000 ha)</u></p> <ul style="list-style-type: none"> • Great pelican (<i>Pelecanus onocrotalus</i>) • Saker falcon (<i>Falco cherrug</i>) • Golden eagle (<i>Aquila chrysaetos</i>) • Black Vulture (<i>Aegypius monachus</i>) 	<p>Non-deterioration of baseline status</p>	<p>Increase relative to baseline</p>	<p>Means of verification: Field inventories; MAEP database; project reports validated by GEF MTR and GEF Terminal Evaluation</p> <p>Assumptions: Project lifetime is sufficient to allow impacts to be generated and monitored; New threats do not emerge</p>

	<p><u>Indicator 23</u> : Stable status /positive change in the population of globally significant biodiversity indicator species in the existent targeted PAs</p> <ul style="list-style-type: none"> • Argali (<i>Ovis vignei</i>) • Kulan (<i>Equus hemionus kulan</i>) • Goiterred gazelle (<i>Gazella subgutturosa</i>) • Bukhara deer (<i>Cervus elaphus bactrianus</i>) • Houbara bustard (<i>Chlamydotis undulata</i>) • Dalmatian pelican (<i>Pelecanus crispus</i>) • Great white pelican (<i>Pelecanus onocrotalus</i>) • Saker falcon (<i>Falco cherrug</i>) • Golden eagle (<i>Aquila chrysaetos</i>) • Yellow eyed pigeon (<i>Columba eversmanni</i>) • Otter (<i>lutra lutra</i>) 	<p>Baseline: as indicated in the METT scorecards</p>	<p>Midterm target: As indicated in the METT scorecards</p>	<p>End project target: As indicated in the METT scorecards</p>	<p>Means of verification: METT scorecards monitoring validated by GEF MTR and GEF Terminal Evaluation Assumptions: Project lifetime is sufficient to allow impacts to be generated and monitored; New threats do not emerge.</p>
	<p><u>Indicator 24</u> : (KM): Updated and accessible environmental data and analysis on IBAs/KBAs and PAs.</p>	<p>Insufficiently developed data base in the PAs and environmental information on critical key species and habitats. Poor integration of existing data sets on biodiversity</p>	<p>Environmental data collected and methodologies elaborated. Assessments of ecological and cultural values; economic assessment of ecotourism potential in new and existing PAs.</p>	<p>-Gap Analysis Report on the IBAs/KBAs Ecological Integrity, Analysis of Anthropogenic Threats and Recommendations to Decision Makers</p>	<p>Means of verification: MAEP official data; forma correspondence; KM sharing platform; existing database at MAEP and PAs management unit; Validation of these indicators at MTR and final project evaluation; Assumptions: No major risk to</p>

		requirements in different sectors.		<p>-Data base on key species and habitats in the existing PAs and KBAs/IBAs under the project scope strengthened and accessible; PAs managers have a better access to environmental information and improved based for research and knowledge management</p> <p>-Study on the Potential for eco-tourism and ecosystem services assessments and potential PES mechanisms in the buffer and production zones around PAs, KBAs/IBAs in Amudarya Basin - available to decision makers and local communities</p> <p>-Experience generated during the development and implementation of two PES mechanisms established under the Management and Business Plans of targeted PAs.</p>	project activities emerge. PAs inventories implemented as planned. Co-financing stable.
	Indicator 25: Existence of capacity building events and information sharing, for environmental inspectors and border officials, PAs staff in Biodiversity management trainings and local community training on eco-tourism and arts and crafts;	0	<p>8 trainings delivered to environmental officials and PAs staff</p> <p>3 trainings delivered to local communities</p>	<p>15 trainings and outreach events (30 % female participants)</p> <p>2 cross border study visits for joint environmental programming and work on wild ungulates migration corridors (Turkmenistan-Uzbekistan)</p>	<p>Means of verification: Formal MAEP correspondence; Workshop evaluation forms; Monitoring via annual project reporting (PIRs) verification at MTR and final project evaluation; project reports; workshop proceedings;</p> <p>Assumptions: No major risk to project activities emerge; local communities are interested to participate in project activities</p>
	Indicator 26 (GEF Core Indicator 4, Sub-indicator 4.1): Area under Improved agricultural practices benefiting	0	Community outreach and participation approaches agreed with the Ministry of Agriculture and Environmental Protection	A total area of 292,607 ha secured by agreements with local communities/authorities at around PA buffer zones and	<p>Means of verification: Local authorities official data; Official MAEP records; Monitoring via annual project reporting (PIRs) verification at MTR and final project evaluation</p> <p>Assumptions: Local</p>

	biodiversity, on the basis of agreements with local communities, on PAs buffer zones and ecological corridors (ha).		Round table meetings and preliminary agreements secured with representatives of local authorities, daikhan associations, farmers and private entrepreneurs	endangered IBAs/KBAs as follows: <ul style="list-style-type: none"> Total area of approx.79,906 ha⁴⁷ supported by 3 local community endorsed ecological corridors around Amudarya State Nature Reserve Total area of approx.167,701 ha community based sustainable pasture management agreement and biodiversity conservation at Tallymerjen IBA/KBA Total area of approx. 45,000 ha of community based sustainable pasture management agreements and biodiversity conservation around Goyungirlan IBA connected to Zengibaba and Tarymgaya biodiversity hotspots 	communities are interested to support biodiversity friendly agricultural practices in buffer zones Local communities are informed and aware of the importance of biodiversity and critical habitats and support and are open to improve agricultural practices around KBAs/IBAs.
	Indicator 27: Farmers /producers' net income (differentiated by gender) from sustainable products (livestock, hay, seeds, dried fruits, medicinal plants, handicrafts) resulted from biodiversity friendly agricultural practices in PA buffer	Baseline to be determined in the first year of project implementation. Net Income men: \$ X Net income women: \$ X Net income of at least 80% of participating farmers (male/ female) documented at project inception (year 1)	Net Income men: \$X + 10% Net income women: \$X + 10% Participating farmers show at least 10% increase based on year 1 estimate.	Net Income men: \$X + 20% Net income women: \$X + 20% Participating farmers show 20% increase based on year 1 estimate.	Means of verification: Monitoring via existing extension services, including Union of Industrialists and Entrepreneurs; signed agreements with grantees; households survey; verification at MTR and final project evaluation; UNCCD/WOCAT knowledge platform project contribution Assumptions: No major risk to project activities emerge; proposed practices are cost effective, have low barrier for uptake especially among female farmers.

- ⁴⁷ Outside the perimeter of Amudarya State Nature Reserve on 19,988 ha (1-4 km wide) along the Pitnyak-Kabakly-Nargiz route, the area is proposed in order to preserve the migration of Tugai deer (*Cervus elaphus bactrianus*) and the ecological integrity of tugai habitats. Assisted natural regeneration of tugai, at Kabakly site will be supported by the project (within the framework of Output 1.2) to patch up tugai corridors.
- Along Karakum river an ecological corridor of 9,482 ha, 2-2.5 km wide along Amudarya – Karakum river – Kelif route and
- Further from Kelif to Yagty-Yol in the vicinity of Mary 50,436 ha to protect the habitat of Amudarya pheasant and other key bird species.

	and production zones				
<p>Output 2.1 Management effectiveness supported for 8 existing PAs, including: (1) improved management, and targeted investments (based on PPG findings); (2) support to local tourism infrastructure to facilitate additional income generation at for local communities at targeted PAs; (3) control over illegal activities.</p> <p>Output 2.2 New conservation areas operationalized through new and innovative approaches covering 50,000 hectares of unprotected high priority ecosystems, supported by: (i) Gap analysis; (ii) Feasibility studies and technical documentation for PA establishment; (iii) Analysis of ecological flow water requirements for maintenance and conservation of KBAs at new sites (iv) Mapping, management, and financial plan preparation, with clear guidance for core and buffer zones, community-based conservation activities and monitoring.</p> <p>Output 2.3 Implementation of biodiversity-friendly sustainable use regimes in PA buffer zones and corridors covering 600,000 ha aiming to provide alternative income to local communities</p>					
	Indicators	Baseline	Mid-term Target	End of Project Target	Means of Verifications and Assumptions
<p>Component 3: International knowledge sharing and cooperation for the Aral Sea Basin</p> <p>Outcome 3: Strengthened and better-informed engagement of Turkmenistan in implementation of regional cooperation under the International Fund for Saving the Aral Sea (IFAS) for improved management and restoration of Aral basin land and water resources, as evidenced by: - Turkmenistan is represented at key regional fora and events supporting the restoration of the Aral Sea - Support provided to international dialog and cooperation on IFAS</p>	<p><u>Indicator 28 (KM):</u> Number of events strengthening national capacity to participate into regional cooperation programmes in the Aral Sea Basin</p>	<p>There are no events strengthening the national capacities to engage in regional negotiations</p>	<p>2 Water Diplomacy Seminars 1 IFAS meeting attended</p>	<ul style="list-style-type: none"> 5 Water Diplomacy Seminars supported by IFAS and the UN Regional Centre for Preventive Diplomacy for Central Asia (UNRCCA) 3 IFAS meetings attended by Turkmenistan delegation contributing to IFAS decisions 	<p>Means of verification: Monitoring via PIRs (Annual project reports) validated by MTR and midterms and final evaluations; project reports; workshop proceedings; various questionnaires and interviews with stakeholders; Assumptions: No major obstacles to project implementation</p>
	<p><u>Indicator 29 (KM)</u> Number of national priorities embedded in IFAS led programmes and initiatives, supported by the project.</p>	<p>National priorities that are identified in the regional IFAS facilitated programmes are not implemented.</p>	<p>2 national priorities embedded in regional initiatives put forward by Turkmenistan are supported by the project</p>	<p>5 national priorities embedded in International and regional initiatives put forward by Turkmenistan to address problems of the Aral Sea Basin are supported by the project.</p>	<p>Means of verification: IFAS official working documents; interviews with national stakeholders; Project working sessions proceedings and reports validated by MTR and midterms and final evaluations; Assumptions: No major obstacles to project implementation.</p>
	<p><u>Indicator 30 (KM).</u> Number of awareness raising events and targeted KM products on water, LD and BD issues in the Aral Sea Basin</p>	<p>Limited awareness raising on biodiversity, land and water management in Aral Sea Basin</p>	<ul style="list-style-type: none"> Communication Plan finalized, communications needs of the key stakeholders identifies and Communication Plan refined and under implementation 10 Awareness raising events Radio Talk Shows Available LDN/SLM/biodiversity training/information materials 	<ul style="list-style-type: none"> 20 awareness raising events 20 Radio Talk Shows for farmers with a segment for women farmers Available LDN/SLM/biodiversity training/information materials and country-specific knowledge shared on UNCCD/ WOCAT platform; CACILM II platform; CAREC platform; Adaptation Fund project platform Project-video Documentary 	<p>Means of verification: Project reports; news clipping; recorded talk shows; documents; interviews with national stakeholders; Project working sessions proceedings and reports validated by MTR and midterms and final evaluations; Assumptions: No major obstacles to project implementation. Stakeholders are interested and willing to participate in the project activities.</p>

				<ul style="list-style-type: none"> Analytical technical reports on integrated water-land resources to inform regional programming under IFAs Project Sustainability Strategy presented and endorsed by project Board and MAEP 	
<p>Output 3.1 Higher capacity for government and scientific institutions for participating in IFAS. IFAS sanctioned activities for the implementation of global and regional initiatives put forward by Turkmenistan to save the Aral Sea, (e.g. Special Programme for Saving the Aral Sea)</p> <ul style="list-style-type: none"> - At least 3 IFAS meetings attended by Turkmenistan delegation where Turkmenistan contributes to decisions at IFAS, - Targeted knowledge management and exchange products (web-based, TV programs, trainings for communities and decision makers) on LD and BD issues in the Aral Sea - Outreach and awareness raising on the problems of the Aral Sea basin, supporting Turkmenistan’s efforts to address degradation - Lessons documented and disseminated within project partners and amongst stakeholders 					
<p>Component 4 Monitoring and Evaluation</p> <p>Outcome 4.1 Project results properly monitored and evaluated</p>	<p><u>Indicator 31</u> Monitoring and Evaluation reports Evaluative knowledge available to project partners</p>	N/A	<ul style="list-style-type: none"> Midterm evaluation report M&E activities 	<ul style="list-style-type: none"> Reports with monitored and evaluated project results (GEF midterm and final reports) Quarterly monitoring activities (UNDP) 	<p>Means of verification: Project reports.</p> <p>Assumptions: No major obstacles to project implementation. Stakeholders are interested and willing to participate in the project activities.</p>
<p>Output 4.1.1. Set of monitoring and evaluation activities</p> <ul style="list-style-type: none"> - Monitored/evaluated project results, and evaluative knowledge incorporated in the project adaptive management 					

V. MONITORING AND EVALUATION (M&E) PLAN

10 The project results, corresponding indicators and mid-term and end-of-project targets in the project results framework will be monitored annually and evaluated periodically during project implementation. If baseline data for some of the results indicators is not yet available, it will be collected during the first year of project implementation. The Monitoring Plan included in Annex 8, details the roles, responsibilities, and frequency of monitoring project results.

11 Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the [UNDP POPP](#) and [UNDP Evaluation Policy](#). The UNDP Country Office is responsible for ensuring full compliance with all UNDP project monitoring, quality assurance, risk management, and evaluation requirements. Additional mandatory GEF-specific M&E requirements will be undertaken in accordance with the [GEF Monitoring Policy](#) and the [GEF Evaluation Policy](#) and other [relevant GEF policies](#)⁴⁸. The costed M&E plan included below, and the Monitoring plan in Annex 6, will guide the GEF-specific M&E activities to be undertaken by this project. In addition to these mandatory UNDP and GEF M&E requirements, other M&E activities deemed necessary to support project-level adaptive management will be agreed during the Project Inception Workshop and will be detailed in the Inception Report.

Additional GEF monitoring and reporting requirements

12 Inception Workshop and Report

- 13 A project inception workshop will be held within 60 days of project CEO endorsement, with the aim to:
- a. Familiarize key stakeholders with the detailed project strategy and discuss any changes that may have taken place in the overall context since the project idea was initially conceptualized that may influence its strategy and implementation.
 - b. Discuss the roles and responsibilities of the project team, including reporting lines, stakeholder engagement strategies and conflict resolution mechanisms.
 - c. Review the results framework and monitoring plan.
 - d. Discuss reporting, monitoring and evaluation roles and responsibilities and finalize the M&E budget; identify national/regional institutes to be involved in project-level M&E; discuss the role of the GEF OFP and other stakeholders in project-level M&E.
 - e. Update and review responsibilities for monitoring project strategies, including the risk log; SESP report, Social and Environmental Management Framework and other safeguard requirements; project grievance mechanisms; gender strategy; knowledge management strategy, and other relevant management strategies.
 - f. Review financial reporting procedures and budget monitoring and other mandatory requirements and agree on the arrangements for the annual audit.
 - g. Plan and schedule Project Board meetings and finalize the first-year annual work plan.
 - h. Formally launch the Project.

GEF Project Implementation Report (PIR)

14 The annual GEF PIR covering the reporting period July (previous year) to June (current year) will be completed for each year of project implementation. Any environmental and social risks and related management plans will be monitored regularly, and progress will be reported in the PIR. The PIR submitted to the GEF will be shared with the Project Board. The quality rating of the previous year's PIR will be used to inform the preparation of the subsequent PIR.

GEF and/or LDCF/SCCF Core Indicators

15 The GEF and/or LDCF/SCCF Core indicators included as Annex will be used to monitor global environmental benefits and will be updated for reporting to the GEF prior to MTR and TE. Note that the project team is responsible for updating the indicator status. The updated monitoring data should be shared with MTR/TE consultants prior to required evaluation missions, so these can be used for subsequent ground truthing. The methodologies to be used in data collection have been

⁴⁸ See https://www.thegef.org/gef/policies_guidelines

defined by the GEF and are available on the GEF [website](#). The required Protected Area Management Effectiveness Tracking Tool (METTs) have been prepared and the scores include in the GEF Core Indicators.

Independent Mid-term Review (MTR)

16 The terms of reference, the review process and the final MTR report will follow the standard templates and guidance for GEF-financed projects available on the [UNDP Evaluation Resource Center \(ERC\)](#). The evaluation will be ‘independent, impartial and rigorous’. The evaluators that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. Equally, the evaluators should not be in a position where there may be the possibility of future contracts regarding the project under review. The GEF Operational Focal Point and other stakeholders will be actively involved and consulted during the evaluation process. Additional quality assurance support is available from the BPPS/GEF Directorate. The final MTR report and MTR TOR will be publicly available in English and will be posted on the UNDP ERC by. A management response to MTR recommendations will be posted in the ERC within six weeks of the MTR report’s completion.

Terminal Evaluation (TE)

17 An independent terminal evaluation (TE) will take place upon completion of all major project outputs and activities. The terms of reference, the evaluation process and the final TE report will follow the standard templates and guidance for GEF-financed projects available on the [UNDP Evaluation Resource Center](#). The evaluation will be ‘independent, impartial and rigorous’. The evaluators that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. Equally, the evaluators should not be in a position where there may be the possibility of future contracts regarding the project being evaluated. The GEF Operational Focal Point and other stakeholders will be actively involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the BPPS/GEF Directorate. The final TE report and TE TOR will be publicly available in English and posted on the UNDP. A management response to the TE recommendations will be posted to the ERC within six weeks of the TE report’s completion.

Final Report : The project’s terminal GEF PIR along with the terminal evaluation (TE) report and corresponding management response will serve as the final project report package. The final project report package shall be discussed with the Project Board during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.

Agreement on intellectual property rights and use of logo on the project’s deliverables and disclosure of information

18 To accord proper acknowledgement to the GEF for providing grant funding, the GEF logo will appear together with the UNDP logo on all promotional materials, other written materials like publications developed by the project, and project hardware. Any citation on publications regarding projects funded by the GEF will also accord proper acknowledgement to the GEF. Information will be disclosed in accordance with relevant policies notably the UNDP Disclosure Policy⁴⁹ and the GEF policy on public involvement⁵⁰.

Monitoring and Evaluation Plan and Budget:				
<i>This M&E plan and budget provides a breakdown of costs for M&E activities to be led by the Project Management Unit during project implementation. These costs are included in Component 4 of the Results Framework and TBWP. For ease of reporting M&E costs, please include all costs reported in the M&E plan under the one technical component. The oversight and participation of the UNDP Country Office/Regional technical advisors/HQ Units are not included as these are covered by the GEF Fee.</i>				
GEF M&E requirements	Responsible Parties	Indicative costs (US\$)		Time frame
		GEF Grant	Co-financing	
Inception Workshop	Implementing Party UNDP Country Office	\$5,000	\$ 15,000	Within 60 days of CEO endorsement of this project.

⁴⁹ See http://www.undp.org/content/undp/en/home/operations/transparency/information_disclosurepolicy/

⁵⁰ See https://www.thegef.org/gef/policies_guidelines

Inception Report	Project Manager	None	None	Within 90 days of CEO endorsement of this project.
Monitoring of indicators in project results framework	Project Manager Project Task Leaders	Paid through project components	Budgeted as part of co-financing under project components	Annually prior to GEF PIR
GEF Project Implementation Report (PIR)	UNDP Country Office ⁵¹ UNDP/GEF RTA	None	None	Annually
Monitoring risks (UNDP risk register)	UNDP Country Office Project manager	None	None	Quarterly, annually
Monitoring of social and environmental safeguards	Project Manager Local coordinators UNDP Country Office	Paid through Component 1 and 2	Budgeted as part of co-financing under Component 1	Annually
Supervision missions	UNDP Country Office	None ⁵²	\$5,000	Quarterly, Annually
Update Mid-term GEF Core indicators and METT (at midterm)	Implementing Partner Project Manager UNDP Country office	Paid through Component 2	\$5,000	Before mid-term review mission takes place.
Independent Mid-term Review (MTR)	UNDP Country Office UNDP/GEF RTA	\$15,600	\$10,000	September 30, 2025
Update GEF Core indicators and METT (at project end)	Implementing Partner Project Manager UNDP Country Office	Paid through Component 2	\$5,000	Before terminal evaluation mission takes place
Travel	UNDP Country Office	\$7,500	None	Mid-term and final evaluation
Monitoring of GEB	M&E expert UNDP Country Office	\$6,000	None	Annually
Independent Terminal Evaluation (TE)	UNDP Country Office UNDP/GEF RTA	\$23,400	\$10,000	November 30, 2026
Project final workshops/conferences	Implementing Party UNDP Country Office	\$5,000	\$15,000	At least two months before the end of the project
Project final report	Project Manager	None	None	Within two weeks from the final project workshop/conference
TOTAL indicative COST <i>Do not exceed 5 % when GEF project grant up to USD 5 million.</i>		\$62,500	\$65,000	

⁵¹ Or equivalent for regional or global project

⁵² The costs of UNDP CO and UNDP-GEF Unit's participation and time are charged to the GEF Agency Fee.

VI. GOVERNANCE AND MANAGEMENT ARRANGEMENTS

Roles and responsibilities of the project's governance mechanism

Implementing Partner

19 The Implementing Partner for this project is *the Ministry of Agriculture and Environmental Protection*. The Project will be nationally implemented (NIM) in line with the Standard Basic Assistance Agreement between the Government of Turkmenistan and the United Nations Development Programme (UNDP), signed by parties on 3 December 1993.

20 The Implementing Partner is the entity to which the UNDP Administrator has entrusted the implementation of UNDP assistance specified in this signed project document along with the assumption of full responsibility and accountability for the effective use of UNDP resources and the delivery of outputs, as set forth in this document. Specific tasks include:

- a. Project planning, coordination, management, monitoring, evaluation and reporting. This includes providing all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results, as necessary. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes and is aligned with national systems so that the data used and generated by the project supports national systems.
- b. Risk management as outlined in this Project Document;
- c. Approving and signing the multiyear workplan;
- d. Approving and signing the combined delivery report at the end of the year; and,
- e. Signing the financial reports or the funding authorization and certificate of expenditures.

21 The UNDP Partner Capacity Assessment Tool (PCAT) confirmed that the Ministry of Agriculture and Environmental Protection (MAEP) has the institutional mandate in a field that is relevant for the project and responds to the key programmatic criteria, having the capacities to ensure quality programme management, provide synergies, replicate and upscale project results, mobilize development partners and ensure national-level co-financing for the project. The IP has experience and technical capacity to supervise, monitor, and ensure adaptive management and risk response towards delivery of project outcomes and outputs.

22 The Ministry of Agriculture and Environmental Protection has been involved in the implementation of GEF projects before, including UNDP/GEF projects however, it has never received and operated GEF resources directly, as the earlier projects were implemented with UNDP Country Office support. Financial execution of a stand-alone donor-funded project or programme is beyond the scope and mandate of the Implementing Partner. It is beyond the administrative capacities, internal regulations and fiscal policies of the MAEP to ensure procurement, contract management, accounting/finance functions and controls for the project. The MAEP will have substantive supervisory functions and roles, while the project administration capacities and functions (contracting, recruitment of personnel and experts, finance administration and administrative support to project processes) will be sought from a qualified third party/ Responsible Party (RP) and UNDP, as clarified further in this paragraph and in the Audit Checklist.

Responsible Party

23 The private enterprise “Ynamly Kepil” has been selected as Responsible Party (RP) as a result of the HACT Micro Assessment conducted. The PCAT Assessment has also demonstrated that private enterprise “Ynamly Kepil” is well capacitated to provide partial execution support for the project. Necessary due diligence has been conducted as part of PCAT for the private entity. The decision on selection has been discussed and consulted with the IP (MAEP). In line with UNDP rules, actual contracting of RP(s) will take place after project approval during the inception phase.

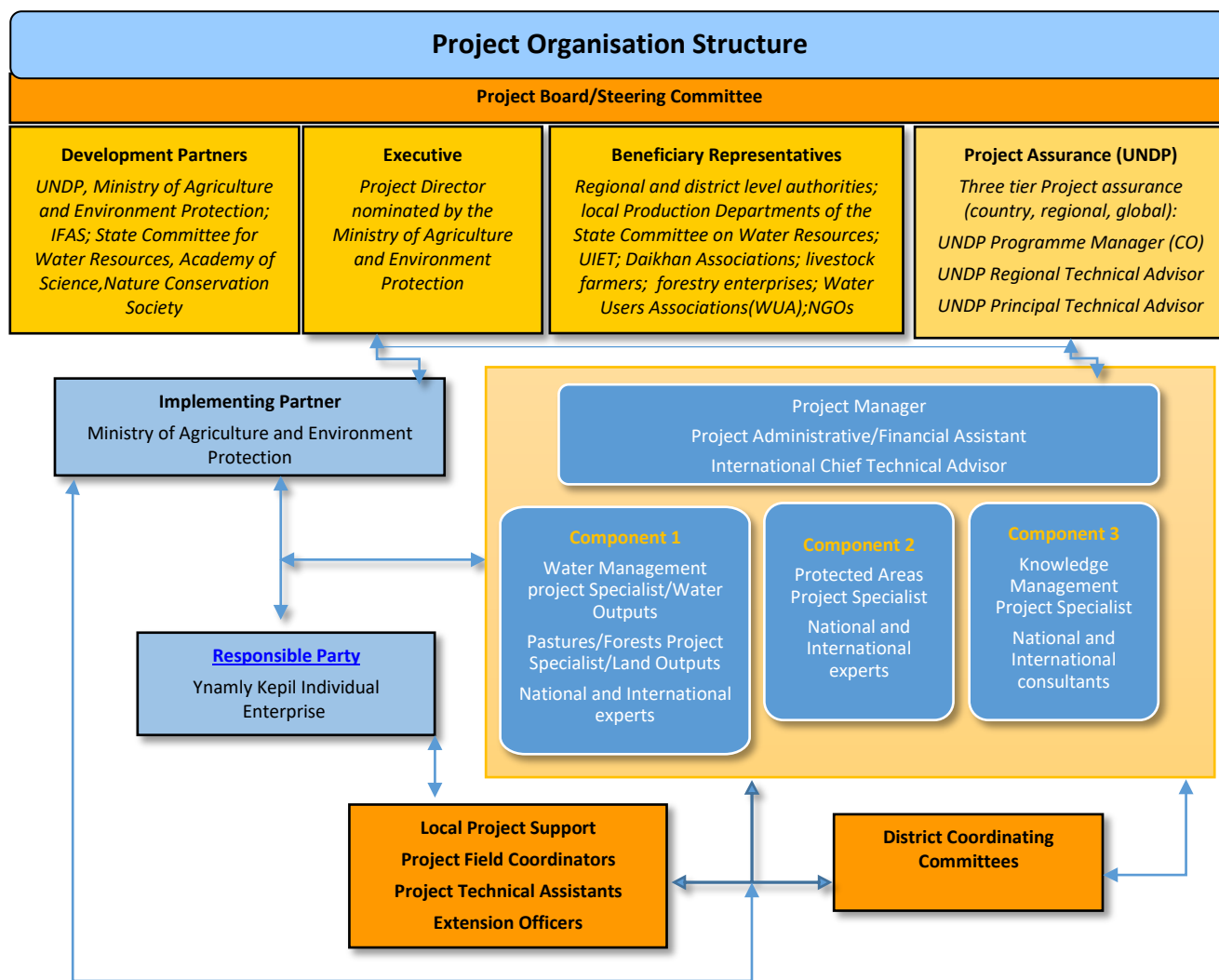
24 At the same time, PCAT and HACT assessments as well as extensive consultations with the MAEP and the potential RPs have indicated certain capacity limitations related to the national legislation and internal regulations of the RPs, especially related to the capacity of executing international payments and procurement and coordination with other international donors and development partners.

25 UNDP: UNDP is accountable to the GEF for the implementation of this project. This includes oversight of project execution to ensure that the project is being carried out in accordance with agreed standards and provisions. UNDP is responsible for delivering GEF project cycle management services comprising project approval and start-up, project supervision and oversight, and project completion and evaluation. UNDP is also responsible for the Project Assurance role of the Project Board/Steering Committee

26 Due to the RP identified capacity constraints, support services of UNDP will be specifically requested on an exceptional basis, in accordance with the GEF Guidelines on Project Cycle C95.Inf.03 dated 20 July 2020. A strict firewall will be maintained between the delivery of project oversight and quality assurance performed by UNDP and charged to the GEF Fee and UNDP supported project execution charged to the project management costs.

27 The Government of Turkmenistan will request UNDP direct services for this project, according to its policies and convenience. The UNDP and Government of Turkmenistan acknowledge and agree that these services are not mandatory, and will be provided only upon Government request. Upon request, the UNDP project support services would follow the UNDP policies on the recovery of direct costs. The requested support services and their estimated costs are specified in the Letter of Agreement (Annex 21). The service costs will be identified in the project budget as Direct Project Costs, based on estimated actual or transaction-based costs and will be charged to the direct project costs account code 74596 – ‘Services to projects - GOE for CO’.

28 Proposed Project Organization Structure is presented below:



Project Board

29 The Project Board (also called Project Steering Committee) is responsible for taking corrective action as needed to ensure the project achieves the desired results. In order to ensure UNDP’s ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition. In case consensus cannot be reached within the

Board, the UNDP Resident Representative (or their designate) will mediate to find consensus and, if this cannot be found, will take the final decision to ensure project implementation is not unduly delayed.

30 Specific responsibilities of the Project Board include:

- a. Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
- b. Address project issues as raised by the project manager;
- c. Provide guidance on new project risks, and agree on possible mitigation and management actions to address specific risks;
- d. Agree on project manager's tolerances as required, within the parameters set by UNDP-GEF, and provide direction and advice for exceptional situations when the project manager's tolerances are exceeded;
- e. Advise on major and minor amendments to the project within the parameters set by UNDP-GEF;
- f. Ensure coordination between various donor and government-funded projects and programmes;
- g. Ensure coordination with various government agencies and their participation in project activities;
- h. Track and monitor co-financing for this project;
- i. Review the project progress, assess performance, and appraise the Annual Work Plan for the following year;
- j. Appraise the annual project implementation report, including the quality assessment rating report;
- k. Ensure commitment of human resources to support project implementation, arbitrating any issues within the project;
- l. Review combined delivery reports prior to certification by the implementing partner;
- m. Provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans;
- n. Address project-level grievances;
- o. Approve the project Inception Report, Mid-term Review and Terminal Evaluation reports and corresponding management responses;
- p. Review the final project report package during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.
- q. Ensure highest level of transparency and take all measures to avoid any real or perceived conflict of interest

31 The composition of the Project Board include the following roles:

- a. *Project Executive*: Is an individual who represents ownership of the project and chairs the Project Board. The Executive is normally the national counterpart for nationally implemented projects. The Project Executive will be nominated by the Project Implementing Partner at the project Inception Phase and this person will act as the Project National Director throughout the project implementation. The Project Director will be part of the Project Board and answer to it. The Project Director will be financed through national government funds (co-financing). The Executive is ultimately responsible for the project.
- b. *Beneficiary Representative(s)*: Individuals or groups representing the interests of those who will ultimately benefit from the project. Their primary function within the board is to support project activities and ensure the realization of project results from the perspective of project beneficiaries. The Beneficiary representatives will be nominated at the Inception Phase and may include: regional and district level government representatives, local production departments of the State Committee on Water Resources, land use planning/cadaster, water users (WUAs), representatives of the Union of Industrialists and Entrepreneurs (UIET), local forestry enterprises; local daikhan associations and private farmers; local NGOs and representatives of local associations.
- c. *Development Partner(s)*: Individuals or groups representing the interests of the parties concerned that provide funding and/or technical expertise to the project. The Development Partners will include project's key partners and representatives of the central government actively participating in the project implementation and formal approval of project outputs: UNDP Resident Representative; Ministry of Agriculture and Environment Protection (representatives of Forestry Department; Protected Areas Department; Agriculture Department); State Committee on Water Resources; IFAS; State Committee for Tourism, Academy of Science, State Committee for Television, Radio Broadcasting and Cinematography.

- d. *Project Assurance*: UNDP performs the quality assurance and supports the Project Board and Project Management Unit by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed. The Project Board cannot delegate any of its quality assurance responsibilities to the Project Manager. UNDP provides a three – tier oversight services involving the UNDP Country Offices and UNDP at regional and headquarters levels. Project assurance is totally independent of the Project Management function.
- e. *Local Coordinating Committees*: will have one representative in the Project Board. Local Coordinating Committees are set up at district level, in each targeted district, and are formed by project experts and district specialists of the local branches of national institutions in agriculture, water management and PAs sectors in the pilot districts. The Local Coordinating Committees will meet quarterly to review progress towards the outputs and outcomes, facilitate coordination among local stakeholders and natural resource users, supporting resolution of any arising conflict among resource users, and actively facilitating the necessary multi-stakeholder consultations at every stage.

Local Coordination Committee at district level

32 Based on the experience of previous projects, it is recommended that a Coordination Committee of stakeholders in each pilot district be set-up, comprising sector specialists in Agriculture, Water and Livestock, Environment as well as representatives of the farmers, water and livestock associations, PAs in the pilot areas. It is recommended that the membership of this committee will be nominal (i.e. personal nomination rather than institutional). The committee will meet bi-monthly (i.e. every two months) to review the progress, identify problems in achieving the development outcomes and milestones, facilitate coordination across sector agencies and programs, help resolve conflicts over resource use and develop future plans for the relevant pilot sites landscape. The minutes of the meeting must be recorded, will contain follow up actions and responsibilities. The meetings will be facilitated by Field Coordinators, Project Specialists and Project Manager. The Committee will be chaired by representative of the IP (Ministry of Agriculture and Environment Protection). The terms of reference, composition of the committee will be refined during the project inception phase. The Local Project Coordination Committee at district level will function as project-level Grievance and Redress Mechanisms (GRM) reporting to the Project Board. These roles and responsibilities will be included in the Terms of Reference of the Local Coordination Committee.

Project management unit (PMU)

33 The Project Manager (PM) has the authority to run the project on a day-to-day basis on behalf of the Project Board within the constraints laid down by the Board. The Project Manager is responsible for day-to-day management and decision-making for the project. The Project Manager’s prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost. The Implementing Partner selects (recruits) the Project Manager, who should be different from the nominated Project Director. The PM will be supported by a Project Financial and Administrative Assistant, who will assist in project planning, revisions and budget execution documents, contracting of national / local consultants and all project staff, in accordance with UNDP procedures and national legislation requirements. The PM will be further supported by four Project Specialists: (i) Water Management (Hydrologist) Project Specialist who will coordinate water related outputs and activities under Component 1, (ii) Agronomist/Land-use Project Specialist who will coordinate outputs related to LDN and land use planning, Pastures and Forests management under Component 1; (iii) Protected Areas Project Specialist who will coordinate PAs related outputs under Component 2, and (iv) Knowledge Management Project Specialist who will coordinate all the outputs under Component 3. The technical aspects of the project will be supervised by an International Chief Technical Advisor, who will work closely with the project specialists and the team of national and international experts. Two Field Coordinators (one in each targeted province) will support the PM and the project staff, and will be responsible for technical support to implementation of activities in the assigned targeted province, delivering the project’s technical outputs at local level and ensuring the implementation of environmental and social safeguards and SESP updates, raising awareness about project-level Grievance and Redress Mechanism (GRM). The Field Coordinators will be supported by local Technical Assistants.

Project extensions

34 The UNDP-GEF Executive Coordinator must approve all project extension requests. Note that all extensions incur costs and the GEF project budget cannot be increased. A single extension may be granted on an exceptional basis and only if the following conditions are met: one extension only for a project for a maximum of six months; the project management costs during the extension period must remain within the originally approved amount, and any increase in PMC costs will be

covered by non-GEF resources; the UNDP Country Office oversight costs during the extension period must be covered by non-GEF resources.

VII. FINANCIAL PLANNING AND MANAGEMENT

213 The total cost of the project is *USD 62,111,196*. This is financed through a GEF grant of *USD 4,583,196 administered by UNDP*, *75,000 cash* co-financing to be administered by UNDP and *USD 57,528,000* in other co-financing. UNDP, as the GEF Implementing Agency, is responsible for the oversight of the GEF resources and the cash co-financing transferred to UNDP bank account only.

214 Confirmed Co-financing: The actual realization of project co-financing will be monitored during the *mid-term review* and terminal evaluation process and will be reported to the GEF. Co-financing will be used for the following project activities/outputs:

Co-financing source	Co-financing type	Co-financing amount	Planned Co-financing Activities/ Outputs	Risks	Risk Mitigation Measures
Ministry of Agriculture and Environment Protection	In kind	57,388,000	Collection of information, analysis, approval and implementation of the Integrated Water Management Plans (Output 1.3) ; Development and Implementation of the Integrated Land Use Plans (Output 1.1.). Improvements in crop agriculture and irrigation technologies and land reclamation (Output 1.2; 1.3). Repair and maintenance of the irrigation system in Lebap and Dashoguz provinces (Output 1.3). Pasture water infrastructure repair and maintenance (Output 1.2; 1.4 and 2.3). Agricultural research (Output 1.2). Analysis and approval of legal amendments, plans, guidelines, manuals. Support to PAs infrastructure and other operational PAs costs (Output 2.1). Training and capacity building of PA staff (Output 2.2). Participation and support to awareness events (Output 3.1) Collection of data and technical analysis in support of IFAS negotiations (Output 3.1). Project management and stakeholders coordination. Project management and education and awareness events.	Low	The UNDP Country Office will monitor the co-financing contributions to the project
UNDP	Cash	75,000	Project management and monitoring according to UNDP rules; Gender mainstreaming; Knowledge management (KM).	Low	Close monitoring
NGO Bosfor	In kind	15,000	Local training on legal and cost-benefit aspects prior to proposal formulations under Output 2.3 (Micro-grants). Support to organization and delivery of awareness events and gender sensitive information products (Output 3.1) and extension services (Output 3.1). Support to KM (Output 3.2).	Low	UNDP CO will monitor the co-financing
NGO Tebigy Kuwwat	In kind	30,000	Support to organization and delivery of education and awareness events and extension services (Output 3.1) support to KM (Output 3.2).	Low	UNDP CO will monitor the co-financing
NGO Ynanch-Vepa	In kind	20,000	Support to organization and delivery of training and awareness events extension services (Output 2.3; 1.3; 3.1) and support to KM (Output 3.2).	Low	UNDP CO will monitor the co-financing
Total co-finance	In-kind grants and cash	57,528,000			
Total project	GEF + co-finance	62,111,196			

215 Implementing Partner (IP) request for UNDP to provide country support services The Implementing Partner and GEF OFP have requested UNDP to provide support services in the amount of **USD\$ 45,832**, listed in the letter included in **Annex 21** for the full duration of the project. **The GEF execution support letter** (signed by the GEF OFP) detailing these

support services is included in **Annex 2**. To ensure the strict independence required by the GEF and in accordance with the UNDP Internal Control Framework, these execution services will be delivered independent from the GEF-specific oversight and quality assurance services (i.e. not done by same person to avoid conflict of interest)

- 216 **Budget Revision and Tolerance:** As per UNDP requirements outlined in the UNDP POPP, the project board will agree on a budget tolerance level for each plan under the overall annual work plan allowing the project manager to expend up to the tolerance level beyond the approved project budget amount for the year without requiring a revision from the Project Board. Should the following deviations occur, the Project Manager/CTA and UNDP Country Office will seek the approval of the BPPS/GEF team to ensure accurate reporting to the GEF: a) Budget re-allocations among components in the project budget with amounts involving 10% of the total project grant or more; b) Introduction of new budget items that exceed 5% of original GEF allocation.
- 217 Any over expenditure incurred beyond the available GEF grant amount will be absorbed by non-GEF resources (e.g. UNDP TRAC or cash co-financing).
- 218 **Audit:** The project will be audited as per UNDP Financial Regulations and Rules and applicable audit policies. Audit cycle and process must be discussed during the Inception workshop.
- 219 **Project Closure:** Project closure will be conducted as per UNDP requirements outlined in the UNDP POPP. All costs incurred to close the project must be included in the project closure budget and reported as final project commitments presented to the Project Board during the final project review. The only costs a project may incur following the final project review are those included in the project closure budget.
- 220 **Operational completion:** The project will be operationally completed when the last UNDP-financed inputs have been provided and the related activities have been completed. This includes the final clearance of the Terminal Evaluation Report (that will be available in English) and the corresponding management response, and the end-of-project review Project Board meeting. **Operational closure must happen with 3 months of posting the TE report to the UNDP ERC.** The Implementing Partner through a Project Board decision will notify the UNDP Country Office when operational closure has been completed. At this time, the relevant parties will have already agreed and confirmed in writing on the arrangements for the disposal of any equipment that is still the property of UNDP.
- 221 **Transfer or disposal of assets:** In consultation with the Implementing Partner and other parties of the project, UNDP is responsible for deciding on the transfer or other disposal of assets. Transfer or disposal of assets is recommended to be reviewed and endorsed by the project board following UNDP rules and regulations. Assets may be transferred to the government for project activities managed by a national institution at any time during the life of a project. In all cases of transfer, a transfer document must be prepared and kept on file⁵³. The transfer should be done before Project Management Unit complete their assignments.
- 222 **Financial completion (closure):** The project will be financially closed when the following conditions have been met: a) the project is operationally completed or has been cancelled; b) the Implementing Partner has reported all financial transactions to UNDP; c) UNDP has closed the accounts for the project; d) UNDP and the Implementing Partner have certified a final Combined Delivery Report (which serves as final budget revision).
- 223 The project will be financially completed **within 6 months of operational closure or after the date of cancellation.** Between operational and financial closure, the implementing partner will identify and settle all financial obligations and prepare a final expenditure report. The UNDP Country Office will send the final signed closure documents including confirmation of final cumulative expenditure and unspent balance to the BPPS/GEF Unit for confirmation before the project will be financially closed in Atlas by the UNDP Country Office.
- 224 **Refund to GEF:** Should a refund of unspent funds to the GEF be necessary, this will be managed directly by the BPPS/GEF Directorate in New York. No action is required by the UNDP Country Office on the actual refund from UNDP project to the GEF Trustee.

⁵³ See

https://popp.undp.org/layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPP_DOCUMENT_LIBRARY/Public/PPM_Project%20Management_Closing.docx&action=default

TOTAL BUDGET AND WORK PLAN

TOTAL BUDGET AND WORK PLAN			
Atlas Proposal (Award) ID:	00128715	Atlas Primary Output (Project) ID:	00122633
Atlas Proposal or Award Title as in Atlas:	Conservation of Land Resources FSP		
Atlas Business Unit	TKM10		
Atlas Primary Output Project Title as in Atlas:	Conservation and Sustainable Management of Land Resources and High Nature Value Ecosystems in the Aral Sea Basin for Multiple Benefits		
UNDP-GEF PIMS No.	6463		
Implementing Partner	Ministry of Agriculture and Environment Protection		

Atlas Activity (GEF Component)	Atlas Implementing Agent	Atlas Fund ID	Donor Name	Atlas Budgetary Account Code[3]	ATLAS Budget Account Description[3]	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	See Budget Note:
COMPONENT 1: Promoting Land Degradation Neutrality	NIM	62000	GEF	71200	International Consultants	52,500	112,500	67,500	7,500	7,500	247,500	1
				71300	Local Consultants	18,280	60,880	67,880	46,480	35,480	229,000	2
				71400	Contractual Services - Individ	32,150	65,467	65,467	165,467	65,467	394,018	3
				71600	Travel	17,194	94,758	50,194	29,694	4,380	196,220	4
				72100	Contractual Services-Companies	32,000	467,490	157,740	39,250	39,750	736,230	5
				72400	Communic & Audio Visual Equip	6,840	6,840	6,840	6,840	6,840	34,200	6
				72800	Information Technology Equipmt	12,950	-	-	-	-	12,950	7
				74200	Audio Visual&Print Prod Costs	16,000	6,000	6,000	6,000	6,000	40,000	8
				72300	Materials & Goods	600	45,000	-	-	-	45,600	9
				72200	Equipment and Furniture	34,550	50,000	-	-	-	84,550	10
				72500	Supplies	9,500	7,500	7,500	6,500	6,500	37,500	11
				75700	Training, Workshops and Confer	21,000	56,000	17,000	50,000	-	144,000	12
Total Outcome 1						253,564	972,435	446,121	357,731	171,917	2,201,768	
COMPONENT 2: Securing Critical Ecosystems for Biodiversity and Ecosystem Services	NIM	62000	GEF	71200	International Consultants	7,500	15,000	15,000	7,500	7,500	52,500	13
				71300	Local Consultants	10,300	83,300	78,800	51,800	44,800	269,000	14
				71400	Contractual Services - Individ	32,150	42,835	42,835	42,835	42,835	203,490	15
				71600	Travel	9,890	40,698	46,384	19,694	9,804	126,470	16
				72100	Contractual Services-Companies	-	70,000	70,000	17,500	17,500	175,000	17
				72200	Equipment and Furniture	-	71,092	107,092	74,046	-	252,230	18
				72400	Communic & Audio Visual Equip	800	2,560	1,140	800	800	6,100	19
				72800	Information Technology Equipmt	-	6,744	1,686	-	-	8,430	20
				74200	Audio Visual&Print Prod Costs	-	1,350	5,400	5,400	1,350	13,500	21
				72600	Grants	-	200,000	200,000	-	-	400,000	22
				75700	Training, Workshops and Confer	3,500	8,250	4,750	8,250	4,750	29,500	23
Total Outcome 2						64,140	541,829	573,087	227,825	129,339	1,536,220	

Atlas Activity (GEF Component)	Atlas Implementing Agent	Atlas Fund ID	Donor Name	Atlas Budgetary Account Code[3]	ATLAS Budget Account Description[3]	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	See Budget Note:		
COMPONENT 3: International knowledge sharing and cooperation for the Aral Sea Basin	NIM	62000	GEF	71200	International Consultants	10,500	10,500	10,000	10,500	10,500	52,000	24		
				71300	Local Consultants	3,800	16,800	21,300	21,800	20,800	84,500	25		
				71400	Contractual Services - Individ	29,456	29,455	29,455	29,455	29,455	147,276	26		
				71600	Travel	10,580	10,580	10,580	4,080	4,080	39,900	27		
				72100	Contractual Services-Companies	5,314	15,314	25,814	15,314	15,814	77,570	28		
				72800	Information Technology Equipmt	24,787	1,920	1,920	1,920	1,920	32,467	29		
				72400	Communic & Audio Visual Equip	1,200	1,200	1,200	1,200	1,200	6,000	30		
				72500	Supplies	4,000	4,000	4,000	4,000	4,000	20,000	31		
				74200	Audio Visual&Print Prod Costs	2,000	2,000	2,248	5,000	11,000	22,248	32		
				75700	Training, Workshops and Confer	2,000	20,000	23,750	22,750	14,000	82,500	33		
Total Outcome 3						93,637	111,769	130,267	116,019	112,769	564,461			
COMPONENT 4: Monitoring and Evaluation	NIM	62000	GEF	71200	International Consultants			14,000		21,000	35,000	34		
				71300	Local Consultants	1,200	1,200	2,800	1,200	3,600	10,000	35		
				75700	Training, Workshops and Confer	5,000				5,000	10,000	36		
				71600	Travel			3,500		4,000	7,500	37		
				Total Outcome 4						6,200	1,200	20,300	1,200	33,600
COMPONENT 5: Project management costs	UNDP	62000	GEF	71400	Contractual Services - Individ	35,040	34,342	34,342	34,342	34,349	172,415	38		
				74596	Direct Project Costs - GOE	9,166	9,166	9,166	9,166	9,168	45,832	39		
				Total Outcome 5						44,206	43,508	43,508	43,508	43,517
		04000	UNDP	74100	Professional Services	2,000	2,500	3,000	2,972	2,000	12,472	40		
				74596	Direct Project Costs - GOE	10,000	31,264	7,088	7,088	7,088	62,528	41		
		sub-total UNDP						12,000	33,764	10,088	10,060	9,088	75,000	
		Total Project Management						56,206	77,272	53,596	53,568	52,605	293,247	
TOTAL GEF						461,747	1,670,741	1,213,283	746,283	491,142	4,583,196			
TOTAL UNDP						12,000	33,764	10,088	10,060	9,088	75,000			
PROJECT TOTAL						473,747	1,704,505	1,223,371	756,343	500,230	4,658,196			

Summary of Funds ⁵⁴

Summary of Funds	Amount Year 1	Amount Year 2	Amount Year 3	Amount Year 4	Amount Year 5	Total
GEF	461,747	1,670,741	1,213,283	746,283	491,142	4,583,196
UNDP	12,000	33,764	10,088	10,060	9,088	75,000
Total other co-financing (cash and in-kind)	20,013,000	12,013,000	10,013,000	14,401,000	1,013,000	57,453,000
TOTAL	20,484,747	13,719,505	11,236,621	15,157,343	1,512,980	62,111,196

⁵⁴ Summary table should include all financing of all kinds: GEF financing, co-financing, cash, in-kind, etc.

Budget notes:

1	Contractual appointment of international specialists in support of Component 1: a) Full cost of an International LDN Expert (Output 1.1). Total cost \$ 75,000 (100 days/\$750/day) during years 1-3; b) Full cost of an International Satellite Image Analyst (Output 1.1 and 1.2). Total cost \$30,000 (40 days/\$750/day) Years 1-3; c) Hydroclimatic modelling expert (Output 1.3). Total cost \$30,000 (40 days/\$750/day) during years 1-3. d) International Integrated Land use Planning Expert (Output 1.1 Output 2.2). Total cost \$75,000 (100 days/\$750/day) during years 1-3. e) Pro-rata (1/3) cost (\$37,500) of the International Technical Advisor (ITA); Total cost 112.5k (150 days/\$750/day).
3	Cost of contractual appointments to provide support of the Outputs under Component 1 : a)Project Water specialist (Coordinator of Output 1.3, Output 1.2 (Act. 1.2.1); Output 1.4/Act. 1.4.3). Total Cost \$101,844 (54 months/\$1886/month) during years 1-5; b) Pasture/Forest Specialist (Coordinator of Outputs 1.2; Output 1.4 and Output 2.3). Total cost: \$101,844 (54 months / \$1886/month) years 1-5; c) Local field coordinator. Total cost \$56,214 (54 months/\$1041/month);d) pro-rata cost of PM (1/3rd of 60% of the total cost i.e. \$2843/month for years 1-5) Total cost: \$34,116. e) Innovation Challenge (Output 1.2/Act. 1.2.4) consist of a contest of innovative ideas to promote innovative business solutions, technologies, policies, regulations and financial instruments in support of achievement of LDN. Total costs: \$100,000 (up to \$10,000/each award).
4	Includes: a) Includes travel expenses related to the implementation of all the activities under Outputs 1.1, Output 1.2, Output 1.3 and Output 1.4, including for water use and targeted assessments (Act 1.3.1) pastures survey and assessments (Act 1.4.1), LDN baseline identification and land use planning assessment (Act. 1.1.5) LDN metrics ground-truthing (Act. 1.1.4); at demonstration plots (Act.1.2.2) . Total costs \$37,570 ; b) Travel costs (including accommodation and incidental expenses) of national and international experts and government field staff in support of Component 1 (Output 1.1 and Output 1.2) as follows: travel expenses for 5 international experts (\$33,750); local consultants travel expenses to project sites (\$ 24,000); monitoring missions of Project Water Specialists and Project Pastures/Forests specialists (\$ 9,000); Field coordinator travel cost in support of Outcome 1 (\$ 14,400) c) Travel costs related to training workshops, roundtables and Farmers Field Schools under Component 1 (35 events x \$60 x 25 people/event). Total cost \$52,500 ; d) Water managers field trip to Uzbekistan (IWRM alignment). Total cost \$25,000 .
5	Contractual appointment of companies to deliver: (i) Construction of small water-regulating structure on on-farm canals (flow rate up to 1,3) Total cost \$25,000 (Act 1.3.3) ; (ii) Construction (including design) of drip irrigation systems on selected demonstration plots Total costs \$ 45,000 (Act. 1.3.3) (iii) Restoration and cleaning of on farm irrigation canals (on 10km). Total costs \$ 15,000 (Act. 1.3.3) ; (iv) Restoration and cleaning of on-farm collector drainage canals (10km). Total cost \$15,000 (Act. 1.3.3); (v) Implementation of anti-filtration measures on small section canals on approx. 100 ha (flow rate of up to 0,75 m3). Total cost \$7,250 (Act. 1.3.3); (vi) Preparation of irrigated fields with laser equipment on approx.100ha. Total cost \$35,000 (Act. 1.3.3); (vii) Restoration of demonstration plot of 20 ha marginal degraded saline land. Total cost \$40,000 (Act. 1.2.1); (viii) Construction of 4 water wells on highly degraded pastures and refurbishment of 6 wells. Total cost \$86,480 (Act. 1.4.2 and Act. 1.4.3) ; (ix) Construction of four rain water harvesting facilities ("khaks" and "sardobas") in each district (Act. 1.4.3). Total cost \$128,000 (x) Delivery of the works required at demonstrative plots (i.e. crop resilience to salinization (\$25,000) (Act. 1.3.3); and SLM on 2x 700ha (\$50,000) (Act. 1.4.3). Total cost \$75,000 ; (xi) Delivery of services for on-farm water management measures (\$3,500) and crop modelling (Act. 1.3.3) climatic risk forecast, salt and dust storms (\$ 25,000) (Act. 1.3.3. and Act. 1.4.2); Total cost \$ 28,500 ; (xii) Strategic Social and Environmental Assessment and other targeted assessments at different sites/safeguards implementation. Total cost \$ 30,000 (Act. 1.3.3); (xiii) Afforestation and agroforestry works including targeted assessments as per SES requirements. Total cost \$150,000 (Act. 1.2.3); (xiv) Translation costs. Total cost \$6,000 ; (xv) NGO or company (supported by project experts) to deliver trainings on LDN/SLM, sustainable water management and irrigation technologies; integrated, inclusive and LDN compatible land use planning. Total cost: \$50,000 (Act. 1.1.1; Act. 1.3.2; Act. 1.4.3)
6	Video conference cameras (2) for Zoom meetings and trainings: loudspeakers, projectors and projector screens, AV cables and other accessories.
7	Procurement of portable computers (6), monitor (6), printers (3), software and networking requirements for Component 1
8	Includes: (i) Costs of procurement of georeferenced digital aerial photography and satellite imagery. Total cost: \$10,000 ; (ii) Design, layout and/or printing costs of Manuals, Guidelines, Technical methodologies, Brochures for farmers, newsletters (KM Indicators 16; 17; 18, 24) (1) Compilation of best practices in irrigation technologies applicable to Turkmenistan (2) Report on the results and knowledge shared during the Farmers Field Schools (3) Water use among multiple users and assessments of the minimum ecological flow needed to maintain lakes and wetlands in Amudarya Basin (4) Methodologies for setting up LDN regional targets (showcasing Dashoguz and Lebap experience) (5) Methodology for Integrating LDN in land use planning, with experience from Dashoguz and Lebap (6) Brochures on sustainable pasture and forests management planning, aligned with LDN (7) Integrated Bio-Saline Agricultural Model for Sustainable and Integrated Use of Mineralized Water Resources and salt-affected soils (brochure that showcases project results of innovative salt resilience (8) LDN Regional Workshop Proceedings Report . Total cost \$30,000 .
9	Includes costs of procurement of materials and goods such as: (i) Grass seed stock, fencing materials; fertilizers, fodder ; gabions etc to support the rehabilitation/restoration of degraded pastures (Output 1.4). Total cost: \$ 25,000 ; (ii) Materials and goods for tree nurseries (seeds, fencing materials, fertilizers, pruning shears, root stock etc (Output 1.2) . Total cost: \$20,000 (iii) First aid kit. Total cost \$600 .
10	Costs related to the procurement of equipment and furniture in support of Component 1: (i) Laboratory set for rapid soil analysis. Total cost (\$8,000); (ii) Field meteo-station. Total cost: \$10,000 ; (iii) Water pump and generator. Total cost \$5,200 ; (iv) Camera, bag, tripod. Total cost: \$4,000 ; (v) On-farm desalination plant. Total costs \$ 8,500 ; (vi) Equipment to support field works (tent, sleeping bags; polyethylene film; ropes for transects; bags for soil and plant samples; flashlights; water tank (40L); field kitchen utensils). Total cost \$48,850
11	Office supplies for the implementation of activities under Component 1
12	Costs with the organization of the training workshops and roundtable meetings in support of Component 1: (i) 3 training workshops on LDN in the context of MEAs/SDGs (in Ashgabat). Total costs \$6,000 ; (ii) 6 training workshops on LDN integration into land use planning for local and national stakeholders. Total cost \$18,000 ; (iii) Training on EO datasets and LDN metrics supported by satellite imagery; processing satellite imagery for monitoring soil condition (3day seminar in Ashgabat). Total cost \$5,000 ; (iv) International LDN workshop on challenges and opportunities of LDN target setting at sub-national levels. Total cost: \$50,000 ; (v) 4 Training workshops on land and water legislation (one in each district) in support of land leasing processes and bank applications. Total cost \$12,000 ; (vi) 8 Training on SLM and Sustainable Pasture and Forest Management. Total cost: \$ 24,000 ; (vii) 8 training of WUAs on sustainable water management, modern irrigation and water metering. Total cost \$24,000 ; (viii) 5 Farmers Field Schools. Total costs: \$ 5,000 .
13	Contractual appointment of international specialists in support of Component 2 :a) Pro-rata (1/3) cost (\$37,500) of the International Technical Advisor (ITA); Total cost 112.5k (150 days/\$750/day); b) International Economist (agro-biodiversity). Total cost \$15,000 (20 days/\$750/day).

14	Contractual appointment of a team of local experts to provide professional , technical and scientific support to activities under Component 2, including consultation, KBAs/IBAs and PAs zonation planning, zonation mapping and preparing the PAs management plan, local community outreach, as follows: a) GIS Specialist (Output 2.1; Output 2.3). Total cost \$24,000 (240 days/\$100/day) during years 1-4; b) Local technical assistant (PA Output 2.1, Output 2.2, Output 2.3). Total cost: \$48,000 (480 days/\$100/day) during years 1-5; c) 2x Local Biodiversity/PAs experts (Output 2/Output 2.2 Output 2.3). Total cost: \$48,000 (2x 240 days/\$100/day) during years 1-5; d) Legal PAs expert (Output 2.1; Output 2.3). Total cost: \$3,000 (30days/\$100/day) during year 3; d) 2x PAs inspection/patrolling expert (Output 2.2; Output 2.3). Total cost: \$20,000 (2x100 days/\$100/day) during years 2-5; e) Ecotourism technical expert (Output 2.1). Total cost: \$10,000 (100 days/\$100/day) during years 2-4; f) Geobotanist (pastures) (Output 2.1; Output 2.3). Total cost: \$7,000 (70 days/\$100/day) during years 2-3; g) Zoologist (wildlife specialist) (Output 2.1; Output 2.3). Total cost: \$16,000 (160 days/\$100/day) during years 1-5; h) Ornithologist (Output 2.1; Output 2.3). Total cost: \$16,000 (160 days/\$100/day) during years 1-5; i) Herpetologist (Output 2.1; Output 2.3). Total cost: \$6,000 (60 days/\$100/day) during years 2-3; j) Botanist (flora survey): (Output 2.1; Output 2.3). Total cost: \$14,000 (140 days/\$100/day) during years 2-5; k) Forestry expert (Output 2.1; Output 2.3). Total cost: \$12,000 (120 days/\$100/day) during years 2-3; l) Ecologist(fishery) expert (Output 2.1; Output 2.3) . Total cost: \$8,000 (80 days/\$100/day) during years 2-3;m) Environment (ecosystem) economist (Output 2.1; Output 2.3). Total cost: \$10,000 (100 days/\$100/day) during years 2-5; n) Capacity development PAs (TNA) (Output 2.2.) Total cost: \$4,000 (40 days/\$100/day) during years 1-2; o) Land use planning specialist (Output 2.1; Output 2.3). Total cost: \$3,000 (30 days/\$100/day) during years 2-3; p)Pro-rata Gender expert (50%) Total cost \$4000 (100 days/\$80/day) during years 1-5; r) National economist (agro-biodiversity/Grant-scheme) (Output 2.3): Total cost: \$16,000 (160 days/\$100/day) during years 2-5.
15	Contractual appointment of a project team of experts in support of Component 2:a) PAs Project Specialist (Output 2.1 Output 2.2 Output 2.3). Total cost: \$113,160 (60 months/1886/month) during years 1-5; b) Local field coordinator Total cost \$56,214 (54 months/\$1041/month);d) pro-rata cost of PM (1/3rd of 60% of the total cost i.e. \$2843/month for years 1-5) Total cost: \$34,116
16	Includes: a) Travel expenses for PAs zoning, mapping and inventory of the KBAs/IBAs under project scope; species inventory (Output 2.1 and 2.3). Total cost: \$37,570 ; b) Travel costs (DSA) for inventory of species and mapping of key habitats in the two targeted PAs and their sanctuaries (\$17,080); c) Travel costs related to field missions/mammals inventory (\$15,060) ;d) Travel costs related to the preparation of Amudarya Reserve Management Plan (\$6,720); e) Travel costs related to community outreach in the PAs and KBAs/IBAs (\$3,600);f) Travel costs related to training workshops (\$4,200);g) Travel costs of the project staff in support to the activities under Output 2.1 and 2.3 (\$14,400); h) Field missions to Uzbekistan and Kazakhstan in support of cross-border wild ungulates conservation measures. Total cost: \$27,840 (2x 8 people /\$1740/person).
17	Includes: a) Helicopter rental costs to support large scale aerial survey of wild ungulates during inception phase and at end project (\$20,000); b)Costs of construction of 10 observation/monitoring towers in both PAs and respective sanctuaries (\$15,000); c) Costs with the construction of two new cordons in both targeted PAs and sanctuaries (\$40,000); d) Building costs of two new enclosures for wild ungulates (gazelles, kulans,deers) (\$10,000); e) Surveying company or institution to hold local meetings, survey the cadastral boundaries of the buffer areas of the two targeted PAs and their sanctuaries under the project scope, physically locate and demarcate boundary corner beacons and prepare survey diagrams for the state land cadastre and land use register (Output 2.1 and Output 2.3) (\$20,000); f) Building costs of 5 new water wells for wildlife (3 in Gaplangyr reserve/sanctuaries and 2 in Amudarya reserve/sanctuaries) (\$60,000); g) Costs related to fencing along wildlife migratory corridors (\$ 4,000); h) Translation services costs (\$6,000).
18	Includes costs of purchasing basic field, monitoring and inspection equipment for the PAs (Output 2.1) (binoculars, camera traps, mobile communication devices; GPS navigators, power sources, generators, satellite collars, field uniforms and gear) Total cost: \$188,230 ; b) Costs of procurement of two off road vehicles to enable monitoring and inspection of sanctuaries including new PA/sanctuary. Total cost: \$60,000 . c) Costs of furniture and equipment to strengthen the training centres in each targeted PAs (2x\$2000). Total cost: \$ 4,000
19	Costs of projector (2) and laminator (2).
20	Procurement of software, database and networking requirements for Component 2 (2 PCs and monitors; 2 laptops; 3 tablets; 1 printer , software and external storage device).
21	Cost of design and publication of the following KM products (KM Indicators 24, 25) : (i) Study on the Economic Potential for Ecotourism in Dashoguz and Lebap PAs/KBAs/IBAs (ii) Gap Analysis Report on the Protection of IBAs/KBAs of Turkmenistan (iii) Report on the Analysis of the Ecological Flow Requirements of the lakes and wetlands (IBAs/KBAs) in Amudarya Basin (developed under Component 1) (iv) Information materials on joint cross-border cooperation on measures promoted by the project under the Bonn Convention (Convention on the Conservation of the Migratory Species of Wild Animals) (v) Brochures on local community supported sustainable biodiversity management in the targeted KBAs/IBAs, showcasing project experience (vi) Information materials on KBAs/IBAs in the Amudarya Basin and on Gaplangyr and Amudarya Reserves.
22	Micro-grant scheme implemented based on UNDP Low Value Grants Policy (Output 2.3) to promote biodiversity friendly agricultural practices in production zones. Total cost: \$400,000
23	Includes costs with the delivery of training workshops to PAs staff, environmental inspectors, border officials, ministry counterparts: a) 12 trainings for PAs staff and environment inspectors and border police. Total cost: \$19,000 ; b) 3 trainings for central and local authorities in Ashgabat. Total cost: \$10,500 .
24	Contractual appointment of international specialists in support of results under Component 3: a) Pro-rata (1/3) cost(\$37,500) of the International Technical Advisor (ITA); Total cost 112.5k (150 days/\$750/day); b) Costs of international key note speakers to deliver presentations to various events organized within the framework of Component 3. Total costs: \$14,500
25	Contractual appointment of a team of local experts to provide professional, technical and scientific support to activities/ outputs under Component 3: a)KM Consultant to systematize project experience (Output 3.2). Total costs: \$12,000 (120 days x 100/day) during years 3-5; b) Communication specialist (Output 3.1, 3.2). Total cost: \$36,500 (365 days x \$100/day) during years 1-5; c) Institutional coordination/Regional water management issues Specialist (Output 3.1). Total cost: \$12,000 (120 days/ \$100/day) during years 2-5; d) 2xLocal extension officers (in Dashoguz and Lebap) . Total cost \$24,000 (120 days/ \$100/day) during years 2-5;
26	Contractual appointments to provide technical support and coordination of all outputs/activities under Component 3 and implementation of the KM Plan: a) KM Specialist (Component 3 Coordinator). Total cost: \$113,160 (60 months/ \$1886/month) b) pro-rata cost of PM (1/3rd of 60% of the total cost i.e. \$2843/month for years 1-5) Total cost: \$34,116
27	Includes: a) Travel costs (flight, accommodation, meals) of 5 members of Turkmenistan delegation to IFAS high-level meeting in Tajikistan. Total cost \$ 6,500 ;b) Travel costs (flight, accommodation, meals) of 5 members of Turkmenistan delegation to IFAS high-level meeting in Kazakhstan; Total cost \$ 6,500 ; c) Travel costs (flight, accommodation, meals) of 5 members of Turkmenistan delegation to IFAS high-level meeting in Uzbekistan. Total cost \$6,500 ; d) Local travel costs related to round table meetings and farmer to farmer experience sharing, of the "Sustainable Land Management Champions" (Act. 3.1.2). Total cost: \$3,600 ; e) Local travel expenses of the Field coordinator and Communication Specialist in support of activities under Component 3. Total cost: \$16,800 .
28	Includes costs: a) contractual costs of a Media PR company to support the implementation of the Communication Plan. Main indicators (KM Indicators 26,27): (i) organization and delivery of 20 awareness and education events on LDN, Sustainable Water Management, Sustainable Biodiversity management and ecosystem services importance to livelihoods) (ii) Design and delivery of 20 radio

	talk shows for farmers including specific segments dedicated to women farmers (iii) Organization of 10 Exhibition Fairs with Arts & Crafts and natural local products (medicinal herbs, dried fruits, vegetables) from the project areas in cities like Turkmenabat, Dashoguz, Chadzou and in Ashgabat (prioritizing the support to the participation of women and youth trainees under Act 3.1.2 facilitating marketing of their products) (iv) Design and maintenance of the project web site and social media presence (v) Awareness questionnaire at the end of the project; Total cost: \$71,570 ; b) costs of translation services. Total cost: \$6,000 .
29	The costs of procurement of IT equipment (15 portable computers; monitor and printer/scanner) in support of training activities and various presentations, work with NGOs and volunteers.
30	Video conference camera: loudspeaker, projector, and projector screen to support Zoom meetings.
31	Costs of office supplies related to trainings and presentations under Component 3.
32	Includes the costs of a) Design and production costs of Communication and KM materials in support of Component 3: (i) Technical Recommendations on National and Regional Water Programming for IFAS meetings (ii) Proceedings of Regional Water Diplomacy Seminars (iii) Analytical reports on integrated water-land management codifying the project's approaches (iv) Compilation of technical information and training modules for extension officers on LDN/SLM measures (v) Compilation of training modules. Total cost: \$12,248 b) Production of a video documentary comprising good SLM practices in the surrounding geographies of the targeted PAs, KBAs/IBAs showcasing the project's experience. Total costs: \$10,000 ;
33	Includes a) Regional trainings on LDN/SLM of 50 extension service providers (jointly with AF Project); (\$40,000) ; b) Costs of 10 training seminars on alternative livelihoods and 5 workshops on eco-tourism, handicrafts and product marketing (\$17,500) ; c) Costs with the organization of 5 Diplomacy Conferences in Ashgabat (\$25,000) .
34	a) Costs of GEF Mid Term Evaluation international consultant (Output 3.2. Total cost:\$14,000 (20 days/\$750/day);b) Costs of GEF Terminal Evaluation international consultant (Output 2.3). Total cost: \$21,000 (30 days/\$750/day);
35	a) National M&E (GEF midterm evaluations). Total cost: \$1,600 (20 days/80/day); b) National M&E (GEF Terminal evaluation). Total cost:\$2,400 (30 days/\$80/day);c) M&E Programme Monitoring Expert (Global Environmental Benefits) (Output 3.2) Total cost: \$6,000 (\$60 days/100/day).
36	Includes Inception and Final project conferences (\$10,000)
37	Travel costs related to GEF evaluations. Total cost: \$7,500;
38	Includes (i) 40% of the costs of Project Manager salary for 5 years (\$2843/month). Total cost of 40% portion : \$68,232 ; (ii) Full cost of a Project Financial and Administrative Assistant (\$1232/month) during years 1-5. Total cost: \$73,920 ; (iii) Full cost of driver (part time) (\$ 630/month). Total cost: \$30,263
39	Direct project costs- Services to the Project (UNDP/GOE) funded by GEF
40	Professional services (Audit) costs
41	Direct Project Costs – GOE (funded from UNDP TRAC)

VIII. LEGAL CONTEXT

225 This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of Turkmenistan and UNDP, signed on 3 December 1993. All references in the SBAA to “Executing Agency” shall be deemed to refer to “Implementing Partner.”

226 This project will be implemented by the Ministry of Agriculture and Environment Protection (“Implementing Partner”) in accordance with its financial regulations, rules, practices and procedures only to the extent that they do not contravene the principles of the Financial Regulations and Rules of UNDP. Where the financial governance of an Implementing Partner does not provide the required guidance to ensure best value for money, fairness, integrity, transparency, and effective international competition, the financial governance of UNDP shall apply.

227 The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations or UNDP concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

IX. RISK MANAGEMENT

Implementing Partner is a Government Entity (NIM)

228 Consistent with the Article III of the SBAA [*or the Supplemental Provisions to the Project Document*], the responsibility for the safety and security of the Implementing Partner and its personnel and property, and of UNDP’s property in the Implementing Partner’s custody, rests with the Implementing Partner. To this end, the Implementing Partner shall:

- f. put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried.
- g. assume all risks and liabilities related to the Implementing Partner’s security, and the full implementation of the security plan.

229 UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of the Implementing Partner’s obligations under this Project Document.

230 The Implementing Partner agrees to undertake all reasonable efforts to ensure that no UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/sc/committees/1267/aq_sanctions_list.shtml.

231 The Implementing Partner acknowledges and agrees that UNDP will not tolerate sexual harassment and sexual exploitation and abuse of anyone by the Implementing Partner, and each of its responsible parties, their respective sub-recipients and other entities involved in Project implementation, either as contractors or subcontractors and their personnel, and any individuals performing services for them under the Project Document.

- h. In the implementation of the activities under this Project Document, the Implementing Partner, and each of its sub-parties referred to above, shall comply with the standards of conduct set forth in the Secretary General’s Bulletin ST/SGB/2003/13 of 9 October 2003, concerning “Special measures for protection from sexual exploitation and sexual abuse” (“SEA”).
- i. Moreover, and without limitation to the application of other regulations, rules, policies and procedures bearing upon the performance of the activities under this Project Document, in the implementation of activities, the Implementing Partner, and each of its sub-parties referred to above, shall not engage in any form of sexual harassment (“SH”). SH is defined as any unwelcome conduct of a sexual nature that might reasonably be expected or be perceived to cause offense or humiliation, when such conduct interferes with work, is made a condition of employment or creates an intimidating, hostile or offensive work environment.

232 In the performance of the activities under this Project Document, the Implementing Partner shall (with respect to its own activities), and shall require from its sub-parties referred to in paragraph 4 (with respect to their activities) that they, have minimum standards and procedures in place, or a plan to develop and/or improve such standards and procedures in order to be able to take effective preventive and investigative action. These should include: policies on sexual harassment and sexual exploitation and abuse; policies on whistleblowing/protection against retaliation; and complaints, disciplinary and investigative mechanisms. In line with this, the Implementing Partner will and will require that such sub-parties will take all appropriate measures to:

- j. Prevent its employees, agents or any other persons engaged to perform any services under this Project Document, from engaging in SH or SEA.
- k. Offer employees and associated personnel training on prevention and response to SH and SEA, where the Implementing Partner and its sub-parties referred to in paragraph 4 have not put in place its own training regarding the prevention of SH and SEA, the Implementing Partner and its sub-parties may use the training material available at UNDP.
- l. Report and monitor allegations of SH and SEA of which the Implementing Partner and its sub-parties referred to in paragraph 4 have been informed or have otherwise become aware, and status thereof.
- m. Refer victims/survivors of SH and SEA to safe and confidential victim assistance; and
- n. Promptly and confidentially record and investigate any allegations credible enough to warrant an investigation of SH or SEA. The Implementing Partner shall advise UNDP of any such allegations received and investigations being conducted by itself or any of its sub-parties referred to in paragraph 4 with respect to their activities under the Project Document, and shall keep UNDP informed during the investigation by it or any of such sub-parties, to the extent that such notification (i) does not jeopardize the conduct of the investigation, including but not limited to the safety or security of persons, and/or (ii) is not in contravention of any laws applicable to it. Following the investigation, the Implementing Partner shall advise UNDP of any actions taken by it or any of the other entities further to the investigation.

233 The Implementing Partner shall establish that it has complied with the foregoing, to the satisfaction of UNDP, when requested by UNDP or any party acting on its behalf to provide such confirmation. Failure of the Implementing Partner, and each of its sub-parties referred to in paragraph 4, to comply of the foregoing, as determined by UNDP, shall be considered grounds for suspension or termination of the Project.

- o. Social and environmental sustainability will be enhanced through application of the UNDP Social and Environmental Standards (<http://www.undp.org/ses>) and related Accountability Mechanism (<http://www.undp.org/secu-srm>).
- p. The Implementing Partner shall: (a) conduct project and programme-related activities in a manner consistent with the UNDP Social and Environmental Standards, (b) implement any management or mitigation plan prepared for the project or programme to comply with such standards, and (c) engage in a constructive and timely manner to address any concerns and complaints raised through the Accountability Mechanism. UNDP will seek to ensure that communities and other project stakeholders are informed of and have access to the Accountability Mechanism.
- q. All signatories to the Project Document shall cooperate in good faith with any exercise to evaluate any programme or project-related commitments or compliance with the UNDP Social and Environmental Standards. This includes providing access to project sites, relevant personnel, information, and documentation.
- r. The Implementing Partner will take appropriate steps to prevent misuse of funds, fraud or corruption, by its officials, consultants, responsible parties, subcontractors and sub-recipients in implementing the project or using UNDP funds. The Implementing Partner will ensure that its financial management, anti-corruption and anti-fraud policies are in place and enforced for all funding received from or through UNDP.
- s. The requirements of the following documents, then in force at the time of signature of the Project Document, apply to the Implementing Partner: (a) UNDP Policy on Fraud and other Corrupt Practices and (b) UNDP Office of Audit and Investigations Investigation Guidelines. The Implementing Partner agrees to the requirements of the above documents, which are an integral part of this Project Document and are available online at www.undp.org.
- t. In the event that an investigation is required, UNDP has the obligation to conduct investigations relating to any aspect of UNDP projects and programmes in accordance with UNDP's regulations, rules, policies and procedures. The Implementing Partner shall provide its full cooperation, including making available personnel, relevant

documentation, and granting access to the Implementing Partner's (and its consultants', responsible parties', subcontractors' and sub-recipients') premises, for such purposes at reasonable times and on reasonable conditions as may be required for the purpose of an investigation. Should there be a limitation in meeting this obligation, UNDP shall consult with the Implementing Partner to find a solution.

234 The signatories to this Project Document will promptly inform one another in case of any incidence of inappropriate use of funds, or credible allegation of fraud or corruption with due confidentiality.

235 Where the Implementing Partner becomes aware that a UNDP project or activity, in whole or in part, is the focus of investigation for alleged fraud/corruption, the Implementing Partner will inform the UNDP Resident Representative/Head of Office, who will promptly inform UNDP's Office of Audit and Investigations (OAI). The Implementing Partner shall provide regular updates to the head of UNDP in the country and OAI of the status of, and actions relating to, such investigation.

236 UNDP shall be entitled to a refund from the Implementing Partner of any funds provided that have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of the Project Document. Such amount may be deducted by UNDP from any payment due to the Implementing Partner under this or any other agreement. Recovery of such amount by UNDP shall not diminish or curtail the Implementing Partner's obligations under this Project Document.

237 Where such funds have not been refunded to UNDP, the Implementing Partner agrees that donors to UNDP (including the Government) whose funding is the source, in whole or in part, of the funds for the activities under this Project Document, may seek recourse to the Implementing Partner for the recovery of any funds determined by UNDP to have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of the Project Document.

238 *Note:* The term "Project Document" as used in this clause shall be deemed to include any relevant subsidiary agreement further to the Project Document, including those with responsible parties, subcontractors and sub-recipients.

239 Each contract issued by the Implementing Partner in connection with this Project Document shall include a provision representing that no fees, gratuities, rebates, gifts, commissions or other payments, other than those shown in the proposal, have been given, received, or promised in connection with the selection process or in contract execution, and that the recipient of funds from the Implementing Partner shall cooperate with any and all investigations and post-payment audits.

240 Should UNDP refer to the relevant national authorities for appropriate legal action any alleged wrongdoing relating to the project, the Government will ensure that the relevant national authorities shall actively investigate the same and take appropriate legal action against all individuals found to have participated in the wrongdoing, recover and return any recovered funds to UNDP.

241 The Implementing Partner shall ensure that all of its obligations set forth under this section entitled "Risk Management" are passed on to each responsible party, subcontractor and sub-recipient and that all the clauses under this section entitled "Risk Management Standard Clauses" are included, *mutatis mutandis*, in all sub-contracts or sub-agreements entered into further to this Project Document.

X. ANNEXES

Annex 1: GEF Budget Template

Expenditure Category	Detailed Description	Component (USDeq.)						Total (USDeq.)	Responsible Entity (Executing Entity receiving funds from the GEF Agency)[1]
		Component 1	Component 2	Component 3	Sub-Total	M&E	PMC		
		Sub-component 1.1	Sub-component 2.1	Sub-component 3.1					
Furniture/Equipment	Video conference cameras (2) for Zoom meetings and trainings: loudspeakers, projectors and projector screens, AV cables and other accessories.	34,200			34,200			34,200	Ministry of Agriculture and Environment Protection
Furniture/Equipment	Procurement of portable computers (6), monitor (6), printers (3), software and networking requirements for Component 1	12,950			12,950			12,950	Ministry of Agriculture and Environment Protection
Furniture/Equipment	Includes costs of procurement of materials and goods such as: (i) Grass seed stock, fencing materials; fertilizers, fodder; gabions etc to support the rehabilitation/restoration of degraded pastures (Output 1.4). Total cost:\$ 25,000; (ii) Materials and goods for tree nurseries (seeds, fencing materials, fertilizers, pruning shears, root stock etc (Output 1.2). Total cost: \$20,000 (iii) First aid kit. Total cost \$600.	45,600			45,600			45,600	Ministry of Agriculture and Environment Protection
Furniture/Equipment	Costs of projector (2) and laminator (2).		6,100		6,100			6,100	Ministry of Agriculture and Environment Protection
Furniture/Equipment	Procurement of software, database and networking requirements for Component 2 (2 PCs and monitors; 2 laptops; 3 tablets; 1 printer, software and external storage device).		8,430		8,430			8,430	Ministry of Agriculture and Environment Protection
Furniture/Equipment	The costs of procurement of IT equipment (15 portable computers; monitor and printer/scanner) in support of training activities and various presentations, work with NGOs and volunteers.			32,467	32,467			32,467	Ministry of Agriculture and Environment Protection
Furniture/Equipment	Video conference camera;loudspeaker, projector and projector screen to support Zoom meetings.			6,000	6,000			6,000	Ministry of Agriculture and Environment Protection
Furniture/Equipment-Vehicle	Costs related to the procurement of equipment and furniture in support of Component 1: (i) Laboratory set for rapid soil analysis. Total cost (\$8,000); (ii) Field meteo-station. Total cost: \$10,000; (iii) Water pump and generator. Total cost \$5,200; (iv) Camera, bag, tripod. Total cost: \$4,000; (v) On-farm desalination plant. Total costs\$ 8,500; (vi) Equipment to support field works (tent, sleeping bags; polyethylene film; ropes for transects; bags for soil and plant samples; flashlights; water tank (40L); field kitchen utensils). Total cost \$48,850	84,550			84,550			84,550	Ministry of Agriculture and Environment Protection
Furniture/Equipment-Vehicle	Includes costs of purchasing basic field, monitoring and inspection equipment for the PAs (Output 2.1) (binoculars, camera traps, mobile communication devices; GPS navigators, power sources, generators, satellite collars, field uniforms and gear) Total cost: \$188,230; b) Costs of procurement of two off road vehicles to enable monitoring and inspection of sanctuaries including new PA/sanctuary. Total cost:\$60,000. c) Costs of furniture and equipment to strengthen the training centres in each targeted PAs (2x\$2000). Total cost: \$ 4,000		252,230		252,230			252,230	Ministry of Agriculture and Environment Protection
Contractual Services – Individual	Cost of contractual appointments to provide support of the Outputs under Component 1 : a)Project Water specialist (Coordinator of Output 1.3, Output 1.2 (Act. 1.2.1); Output 1.4/Act. 1.4.3). Total Cost \$101,844 (54 months/\$1886/month) during years 1-5; b) Pasture/Forest Specialist (Coordinator of Outputs 1.2; Output 1.4 and Output 2.3). Total cost: \$101,844 (54 months / \$1886/month) years 1-5; c) Local field coordinator. Total cost \$56,214 (54 months/\$1041/month);d) pro-rata cost of PM (1/3rd of 60% of the total cost i.e. \$2843/month for years 1-5) Total cost: \$34,116. e) Innovation Challenge (Output 1.2/Act. 1.2.4) consist of a contest of innovative ideas to promote innovative business solutions, technologies, policies, regulations and financial instruments in support of achievement of LDN. Total costs: \$100,000 (up to \$10,000/each award).	394,018			394,018			394,018	Ministry of Agriculture and Environment Protection

Expenditure Category	Detailed Description	Component (USDeq.)						Total (USDeq.)	Responsible Entity
		Component 1	Component 2	Component 3	Sub-Total	M&E	PMC		(Executing Entity receiving funds from the GEF Agency)[1]
		Sub-component 1.1	Sub-component 2.1	Sub-component 3.1					
Contractual Services – Individual	Contractual appointment of a project team of experts in support of Component 2:a) PAs Project Specialist (Output 2.1 Output 2.2 Output 2.3). Total cost: \$113,160 (60 months/1886/month) during years 1-5; b) Local field coordinator Total cost \$56,214 (54 months/\$1041/month);d) pro-rata cost of PM (1/3rd of 60% of the total cost i.e. \$2843/month for years 1-5) Total cost: \$34,116		203,490		203,490			203,490	Ministry of Agriculture and Environment Protection
Contractual Services – Individual	Contractual appointments to provide technical support and coordination of all outputs/activities under Component 3 and implementation of the KMPlan: a) KM Specialist (Component 3 Coordinator). Total cost:\$113,160 (60 months/\$1886/month) b) pro-rata cost of PM (1/3rd of 60% of the total cost i.e. \$2843/month for years 1-5) Total cost: \$34,116			147,276	147,276			147,276	Ministry of Agriculture and Environment Protection
Contractual Services – Individual	Includes (i) 40% of the costs of Project Manager salary for 5 years (\$2843/month). Total cost of 40% portion : \$68,232; (ii) Full cost of a Project Financial and Administrative Assistant (\$1232/month) during years 1-5. Total cost: \$73,920; (iii) Full cost of driver (part time) (\$ 630/month). Total cost: \$30,263				-		172,415	172,415	UNDP
Contractual Services – Company	Contractual appointment of companies to deliver: (i) Construction of small water-regulating structure on on-farm canals (flow rate up to 1,3) Total cost \$25,000 (Act 1.3.3); (ii) Construction (including design) of drip irrigation systems on selected demonstration plots Total costs \$ 45,000 (Act. 1.3.3) (iii) Restoration and cleaning of on farm irrigation canals (on 10km). Total costs \$ 15,000 (Act. 1.3.3); (iv) Restoration and cleaning of on-farm collector drainage canals (10km). Total cost \$15,000 (Act. 1.3.3); (v) Implementation of anti-filtration measures on small section canals on approx. 100 ha (flow rate of up to 0,75 m3). Total cost \$7,250 (Act. 1.3.3); (vi) Preparation of irrigated fields with laser equipment on approx.100ha. Total cost \$35,000 (Act. 1.3.3); (vii) Restoration of demonstration plot of 20 ha marginal degraded saline land. Total cost \$40,000 (Act. 1.2.1); (viii) Construction of 4 water wells on highly degraded pastures and refurbishment of 6 wells. Total cost \$86,480 (Act. 1.4.2 and Act. 1.4.3); (ix) Construction of four rain water harvesting facilities ("khaks" and "sardobas") in each district (Act. 1.4.3). Total cost \$128,000 (x) Delivery of the works required at demonstrative plots (i.e. crop resilience to salinization (\$25,000) (Act. 1.3.3); and SLM on 2x 700ha (\$50,000) (Act. 1.4.3). Total cost \$75,000; (xi) Delivery of services for on-farm water management measures (\$3,500) and crop modelling (Act. 1.3.3) climatic risk forecast, salt and dust storms (\$ 25,000) (Act. 1.3.3. and Act. 1.4.2); Total cost \$ 28,500; (xii) Strategic Social and Environmental Assessment and other targeted assessments at different sites/safeguards implementation. Total cost \$ 30,000 (Act. 1.3.3); (xiii) Afforestation and agroforestry works including targeted assessments as per SES requirements. Total cost \$150,000 (Act. 1.2.3); (xiv) Translation costs. Total cost \$6,000; (xv) NGO or company (supported by project experts) to deliver trainings on LDN/SLM, sustainable water management and irrigation technologies; integrated, inclusive and LDN compatible land use planning. Total cost:\$50,000 (Act. 1.1.1; Act. 1.3.2; Act. 1.4.3)	736,230			736,230			736,230	Ministry of Agriculture and Environment Protection
Contractual Services – Company	Includes: a) Helicopter rental costs to support large scale aerial survey of wild ungulates during inception phase and at end project (\$20,000); b) Costs of construction of 10 observation/monitoring towers in both PAs and respective sanctuaries (\$15,000); c) Costs with the construction of two new cordons in both targeted PAs and sanctuaries (\$40,000); d) Building costs of two new enclosures for wild ungulates (gazelles, kulans, deers) (\$10,000); e) Surveying company or institution to survey the cadastral boundaries of the buffer areas of the two targeted PAs and their sanctuaries under the project scope, physically locate and demarcate boundary corner beacons and prepare survey diagrams for the state land cadastre and land use register (Output 2.1 and Output 2.3) (\$20,000); f) Building costs of 5 new water wells for wildlife (3 in Gaplangyr reserve/sanctuaries and 2 in Amudaryya reserve/sanctuaries) (\$60,000); g) Costs related to fencing along wildlife migratory corridors (\$ 4,000); h) Translation services costs (\$6,000).		175,000		175,000			175,000	Ministry of Agriculture and Environment Protection

Expenditure Category	Detailed Description	Component (USDeq.)						Total (USDeq.)	Responsible Entity (Executing Entity receiving funds from the GEF Agency)[1]
		Component 1	Component 2	Component 3	Sub-Total	M&E	PMC		
		Sub-component 1.1	Sub-component 2.1	Sub-component 3.1					
Contractual Services – Company	Includes costs: a) contractual costs of a Media PR company to support the implementation of the Communication Plan. Main indicators (KM Indicators 26,27); (i) organization and delivery of 20 awareness and education events on LDN, Sustainable Water Management, Sustainable Biodiversity management and ecosystem services importance to livelihoods) (ii) Design and delivery of 20 radio talk shows for farmers including specific segments dedicated to women farmers (iii) Organization of 10 Exhibition Fairs with Arts & Crafts and natural local products (medicinal herbs, dried fruits, vegetables) from the project areas in cities like Turkmenabat, Dashoguz, Chadzou and in Ashgabat (prioritizing the support to the participation of women and youth trainees under Act 3.1.2 facilitating marketing of their products) (iv) Design and maintenance of the project web site and social media presence (v) Awareness questionnaire at the end of the project; Total cost: \$71,570; b) costs of translation services. Total cost: \$6,000.			77,570	77,570		77,570	Ministry of Agriculture and Environment Protection	
Grants	Micro-grant scheme implemented based on UNDP Low Value Grants Policy (Output 2.3) to promote biodiversity friendly agricultural practices in production zones. Total cost:\$400,000		400,000		400,000		400,000	Ministry of Agriculture and Environment Protection	
International Consultants	Contractual appointment of international specialists in support of Component 1: a) Full cost of an International LDN Expert (Output 1.1.). Total cost \$ 75,000 (100 days/\$750/day) during years 1-3; b) Full cost of an International Satellite Image Analyst (Output 1.1 and 1.2). Total cost \$30,000 (40 days/\$750/day) Years 1-3; c) Hydroclimatic modelling expert (Output 1.3). Total cost \$30,000 (40 days/\$750/day) during years 1-3. d) International Integrated Land use Planning Expert (Output 1.1 Output 2.2). Total cost \$75,000 (100 days/\$750/day) during years 1-3. e) Pro-rata (1/3) cost (\$37,500) of the International Technical Advisor (ITA); Total cost 112.5k (150 days/\$750/day).	247,500			247,500		247,500	Ministry of Agriculture and Environment Protection	
International Consultants	Contractual appointment of international specialists in support of Component 2: a) Pro-rata (1/3) cost (\$37,500) of the International Technical Advisor (ITA); Total cost 112.5k (150 days/\$750/day); b) International Economist (agro-biodiversity). Total cost \$15,000 (20 days/\$750/day).		52,500		52,500		52,500	Ministry of Agriculture and Environment Protection	
International Consultants	Contractual appointment of international specialists in support of results under Component 3: a) Pro-rata (1/3) cost(\$37,500) of the International Technical Advisor (ITA); Total cost 112.5k (150 days/\$750/day); b) Costs of international key note speakers to deliver presentations to various events organized within the framework of Component 3. Total costs: \$14,500			52,000	52,000		52,000	Ministry of Agriculture and Environment Protection	
International Consultants	a) Costs of GEF Mid Term Evaluation international consultant (Output 3.2. Total cost:\$14,000 (20 days/\$750/day);b) Costs of GEF Terminal Evaluation international consultant (Output 2.3). Total cost: \$21,000 (30 days/\$750/day);				-	35,000	35,000	Ministry of Agriculture and Environment Protection	
Local Consultants	Contractual appointment of a team of local experts to provide professional, technical and scientific support to activities under Component 1 and coordination with some activities under Component 2, as follows: a) 2x Pasture agronomist (Output 1.1; Output 1.2; Output 1.4; Output 2.3). Total cost \$19,200 (120 days/\$80/day) during years 1-5. b) GIS expert (Output 1.1) Total cost \$22,000 (220 days/\$100/day) during years 1-5; c) Local technical support expert (Output 1.2-1.4; Output 2.3) Total cost \$48,000 (480 days/\$100/day) during years 2-5; d) Landscape specialist (Output 1.1) Total cost \$3,200 (40 days/\$80/day) during year ; e) 2x Soil specialist Total cost \$12,800 (80 days/\$80/day) during years 1-2; f) 2x Land-use experts Total cost \$16,000 (100 days/\$80/day) during years 2-3; g) Irrigation and Crop Water requirement expert (Output 1.3) Total cost \$19,200 (240 days/\$80/day) during years 1-5; h) Agriculture/agroforestry Expert (Output 1.2; 1.4) Total cost \$8000 (100 days/\$80/day) during years 1-5; i) Water engineering/monitoring Expert Total cost \$4,000 (40 days/\$100/day) during years 2-3; j) 2x Water management/Hydrologist (Output 1.3). Total cost \$20,000 (100 days/ \$ 100/day) during years 2-5; k) Economist/Land degradation Expert (Output 1.1 and Output 1.2) Total cost \$ 12,000 (120 days/\$100/day) during years 2-4; l) Legal/policy Expert (Output 1.1; Output 1.3; Output 1.4; Output 2.1) Total cost \$15,000 (150 days/\$100/day) during years 1-5; m) 2x Socio-economic and Outreach Expert (Output 1.2; Output 1.3; Output 3.1) Total cost \$ 25,600 (160 days/\$80/day) n) Pro-rata Gender expert (50%) Total cost \$4,000 (100 days/\$80/day) during years 1-5.	229,000			229,000		229,000	Ministry of Agriculture and Environment Protection	

Expenditure Category	Detailed Description	Component (USDeq.)						Total (USDeq.)	Responsible Entity (Executing Entity receiving funds from the GEF Agency)[1]
		Component 1	Component 2	Component 3	Sub-Total	M&E	PMC		
		Sub-component 1.1	Sub-component 2.1	Sub-component 3.1					
Local Consultants	Contractual appointment of a team of local experts to provide professional, technical and scientific support to activities under Component 2, including consultation, KBAs/IBAs and PAs zonation planning, zonation mapping and preparing the PAs management plan, local community outreach, as follows: a) GIS Specialist (Output 2.1; Output 2.3). Total cost \$24,000 (240 days/\$100/day) during years 1-4; b) Local technical assistant (PA Output 2.1, Output 2.2, Output 2.3). Total cost:\$48,000 (480 days/\$100/day) during years 1-5; c) 2x Local Biodiversity/PAs experts (Output 2/Output 2.2 Output 2.3). Total cost: \$48,000 (2x 240 days/\$100/day) during years 1-5; d) Legal PAs expert (Output 2.1; Output 2.3). Total cost: \$3,000 (30days/\$100/day) during year 3; d) 2x PAs inspection/patrolling expert (Output 2.2; Output 2.3). Total cost: \$20,000 (2x100 days/\$100/day) during years 2-5; e) Ecotourism technical expert (Output 2.1). Total cost:\$10,000 (100 days/\$100/day) during years 2-4; f) Geobotanist (pastures) (Output 2.1; Output 2.3). Total cost: \$7,000 (70 days/\$100/day) during years 2-3; g) Zoologist (wildlife specialist) (Output 2.1; Output 2.3). Total cost: \$16,000 (160 days/\$100/day) during years 1-5; h) Ornithologist (Output 2.1; Output 2.3). Total cost: \$16,000 (160 days/\$100/day) during years 1-5; i) Herpetologist (Output 2.1; Output 2.3). Total cost: \$6,000 (60 days/\$100/day) during years 2-3; j) Botanist (flora survey): (Output 2.1; Output 2.3). Total cost: \$14,000 (140 days/\$100/day) during years 2-5; k) Forestry expert (Output 2.1; Output 2.3). Total cost: \$12,000 (120 days/\$100/day) during years 2-3; l) Ecologist(fishery) expert (Output 2.1; Output 2.3). Total cost: \$8,000 (80 days/\$100/day) during years 2-3;m) Environment (ecosystem) economist (Output 2.1; Output 2.3). Total cost: \$10,000 (100 days/\$100/day) during years 2-5; n) Capacity development PAs (TNA) (Output 2.2.) Total cost: \$4,000 (40 days/\$100/day) during years 1-2; o) Land use planning specialist (Output 2.1; Output 2.3). Total cost: \$3,000 (30 days/\$100/day) during years 2-3; p) Pro-rata Gender expert (50%) Total cost \$4000 (100 days/\$80/day) during years 1-5; r) National economist (agro-biodiversity/Grant-scheme) (Output 2.3): Total cost: \$16,000 (160 days/\$100/day) during years 2-5.		269,000		269,000			269,000	Ministry of Agriculture and Environment Protection
Local Consultants	Contractual appointment of a team of local experts to provide professional, technical and scientific support to activities/ outputs under Component 3: a) KM Consultant to systematize project experience (Output 3.2). Total costs: \$12,000 (120 days x 100/day) during years 3-5; b) Communication specialist (Output 3.1, 3.2). Total cost: \$36,500 (365 days x \$100/day) during years 1-5; c) Institutional coordination/Regional water management issues Specialist (Output 3.1). Total cost: \$12,000 (120 days/\$100/day) during years 2-5; d) 2x Local extension officers (in Dashguz and Lebap). Total cost \$24,000 (120 days/\$100/day) during years 2-5;			84,500	84,500				Ministry of Agriculture and Environment Protection
Local Consultants	a) National M&E (GEF midterm evaluations). Total cost: \$1,600 (20 days/\$80/day); b) National MSE (GEF Terminal evaluation). Total cost: \$2,400 (30 days/\$80/day); c) M&E Programme Monitoring Expert (Global Environmental Benefits) (Output 3.2) Total cost: \$6,000 (\$60 days/100/day).				-	10,000	10,000		Ministry of Agriculture and Environment Protection
Trainings, Workshops, Meetings	Costs with the organization of the training workshops and roundtable meetings in support of Component 1: (i) 3 training workshops on LDN in the context of MEAs/SDGs (in Ashgabat). Total costs \$6,000; (ii) 6 training workshops on LDN integration into land use planning for local and national stakeholders. Total cost \$18,000; (iii) Training on EO datasets and LDN metrics supported by satellite imagery; processing satellite imagery for monitoring soil condition (3day seminar in Ashgabat). Total cost \$5,000; (iv) International LDN workshop on challenges and opportunities of LDN target setting at sub-national levels. Total cost: \$50,000; (v) 4 Training workshops on land and water legislation (one in each district) in support of land leasing processes and bank applications. Total cost \$12,000; (vi) 8 Training on SLM and Sustainable Pasture and Forest Management. Total cost: \$ 24,000; (vii) 8 training of WUAs on sustainable water management, modern irrigation and water metering. Total cost \$24,000; (viii) 5 Farmers Field Schools. Total costs: \$ 5,000.	144,000			144,000			144,000	Ministry of Agriculture and Environment Protection
Trainings, Workshops, Meetings	Includes costs with the delivery of training workshops to PAs staff, environmental inspectors, border officials, ministry counterparts: a) 12 trainings for PAs staff and environment inspectors and border police. Total cost: \$19,000; b) 3 trainings for central and local authorities in Ashgabat. Total cost: \$10,500.		29,500		29,500			29,500	Ministry of Agriculture and Environment Protection
Trainings, Workshops, Meetings	Includes a) Regional trainings on LDN/SLM of 50 extension service providers (jointly with AF Project); (\$40,000); b) Costs of 10 training seminars on alternative livelihoods and 5 workshops on eco-tourism, handicrafts and product marketing (\$17,500); c) Costs with the organization of 5 Diplomacy Conferences in Ashgabat (\$25,000).			82,500	82,500				Ministry of Agriculture and Environment Protection
Trainings, Workshops, Meetings	Includes Inception and Final project conferences (\$10,000)				-	10,000	10,000		Ministry of Agriculture and Environment Protection

Expenditure Category	Detailed Description	Component (USDeq.)						Total (USDeq.)	Responsible Entity (Executing Entity receiving funds from the GEF Agency)[1]
		Component 1	Component 2	Component 3	Sub-Total	M&E	PMC		
		Sub-component 1.1	Sub-component 2.1	Sub-component 3.1					
Travel	Includes: a) Includes travel expenses related to the implementation of all the activities under Outputs 1.1, Output 1.2, Output 1.3 and Output 1.4, including for water use assessments (Act 1.3.1) pastures survey (Act 1.4.1), LDN baseline identification and land use planning assessment (Act. 1.1.5) LDN metrics ground-truthing (Act. 1.1.4); at demonstration plots (Act.1.2.2) . Total costs \$37,570; b) Travel costs (including accommodation and incidental expenses) of national and international experts and government field staff in support of Component 1 (Output 1.1 and Output 1.2) as follows: travel expenses for 5 international experts (\$33,750); local consultants travel expenses to project sites (\$24,000); monitoring missions of Project Water Specialists and Project Pastures/Forests specialists (\$9,000); Field coordinator travel cost in support of Outcome 1 (\$14,400) c) Travel costs related to training workshops, roundtables and Farmers Field Schools under Component 1 (35 events x \$60 x 25 people/event). Total cost \$52,500; d) Water managers field trip to Uzbekistan (IWRM alignment). Total cost \$25,000.	196,220			196,220			196,220	Ministry of Agriculture and Environment Protection
Travel	Includes: a) Travel expenses for PAs zoning, mapping and inventory of the KBAs/IBAs under project scope; species inventory (Output 2.1 and 2.3). Total cost: \$37,570; b) Travel costs (DSA) for inventory of species and mapping of key habitats in the two targeted PAs and their sanctuaries (\$17,080); c) Travel costs related to field missions/mammals inventory (\$15,060) ;d) Travel costs related to the preparation of Amudarya Reserve Management Plan (\$6,720); e) Travel costs related to community outreach in the PAs and KBAs/IBAs (\$3,600);f) Travel costs related to training workshops (\$4,200);g) Travel costs of the project staff in support to the activities under Output 2.1 and 2.3 (\$14,400); h) Field missions to Uzbekistan and Kazakhstan in support of cross-border wild ungulates conservation measures. Total cost: \$27,840 (2x 8 people /\$1740/person).		126,470		126,470			126,470	Ministry of Agriculture and Environment Protection
Travel	Includes: a) Travel costs (flight, accommodation, meals) of 5 members of Turkmenistan delegation to IFAS high-level meeting in Tajikistan. Total cost \$6,500; b) Travel costs (flight, accommodation, meals) of 5 members of Turkmenistan delegation to IFAS high-level meeting in Kazakhstan; Total cost \$6,500; c) Travel costs (flight, accommodation, meals) of 5 members of Turkmenistan delegation to IFAS high-level meeting in Uzbekistan. Total cost \$6,500; d) Local travel costs related to round table meetings and farmer to farmer experience sharing, of the "Sustainable Land Management Champions" (Act. 3.1.2). Total cost: \$3,600 ; e) Local travel expenses of the Field coordinator and Communication Specialist in support of activities under Component 3. Total cost:\$16,800.			39,900	39,900				Ministry of Agriculture and Environment Protection
Travel	Travel costs related to GEF evaluations. Total cost: \$7,500				-	7,500		7,500	Ministry of Agriculture and Environment Protection
Sub-contract to executing partner	Direct project costs-Services to the Project (UNDP/GOE) funded by GEF				-		45,832	45,832	UNDP

Expenditure Category	Detailed Description	Component (USDeq.)						Total (USDeq.)	Responsible Entity
		Component 1	Component 2	Component 3	Sub-Total	M&E	PMC		(Executing Entity receiving funds from the GEF Agency)[1]
		Sub-component 1.1	Sub-component 2.1	Sub-component 3.1					
Office Supplies	Office supplies for the implementation of activities under Component 1	37,500			37,500			37,500	Ministry of Agriculture and Environment Protection
Office Supplies	Costs of office supplies related to trainings and presentations under Component 3.			20,000	20,000			20,000	Ministry of Agriculture and Environment Protection
Other Operating Costs	Includes: (i) Costs of procurement of georeferenced digital aerial photography and satellite imagery. Total cost: \$10,000; (ii) Design, layout and/or printing costs of Manuals, Guidelines, Technical methodologies, Brochures for farmers, newsletters (KM Indicators 16; 17; 18, 24) (1) Compilation of best practices in irrigation technologies applicable to Turkmenistan (2) Report on the results and knowledge shared during the Farmers Field Schools (3) Water use among multiple users and assessments of the minimum ecological flow needed to maintain lakes and wetlands in Amudarya Basin (4) Methodologies for setting up LDN regional targets (showcasing Dashoguz and Lebap experience) (5) Methodology for Integrating LDN in land use planning, with experience from Dashoguz and Lebap (6) Brochures on sustainable pasture and forests management planning, aligned with LDN (7) Integrated Bio-Saline Agricultural Model for Sustainable and Integrated Use of Mineralized Water Resources and salt-affected soils (brochure that showcases project results of innovative salt resilience (8) LDN Regional Workshop Proceedings Report . Total cost \$30,000.	40,000			40,000			40,000	Ministry of Agriculture and Environment Protection
Other Operating Costs	Cost of design and publication of the following KM products (KM Indicators 24, 25) : (i) Study on the Economic Potential for Ecotourism in Dashoguz and Lebap PAs/KBAs/IBAs (ii) Gap Analysis Report on the Protection of IBAs/KBAs of Turkmenistan (iii) Report on the Analysis of the Ecological Flow Requirements of the lakes and wetlands (IBAs/KBAs) in Amudarya Basin (developed under Component 1) (iv) Information materials on joint cross-border cooperation on measures promoted by the project under the Bonn Convention (Convention on the Conservation of the Migratory Species of Wild Animals) (v) Brochures on local community supported sustainable biodiversity management in the targeted KBAs/IBAs, showcasing project experience (vi) Information materials on KBAs/IBAs in the Amudarya Basin and on Gaplanyr and Amudarya Reserves.		13,500		13,500			13,500	Ministry of Agriculture and Environment Protection
Other Operating Costs	Includes the costs of a) Design and production costs of Communication and KM materials in support of Component 3: (i) Technical Recommendations on National and Regional Water Programming for IFAS meetings (ii) Proceedings of Regional Water Diplomacy Seminars (iii) Analytical reports on integrated water-land management codifying the project's approaches (iv) Compilation of technical information and training modules for extension officers on LDN/SLM measures (v) Compilation of training modules. Total cost: \$12,248 b) Production of a video documentary comprising good SLM practices in the surrounding geographies of the targeted PAs, KBAs/IBAs showcasing the project's experience. Total costs: \$10,000;			22,248	22,248			22,248	Ministry of Agriculture and Environment Protection
Grand Total		2,201,768	1,536,220	564,461	4,302,449	62,500	218,247	4,583,196	

**TÜRKMENISTANYŇ
OBA HOJALYK WE DAŞKY
GURŞAWY GORAMAK
MINISTRIGI**

✉ 744036, Aşgabat şäheri, Arçabil şaýoly, 92-nji jaýy
☎ Telefon: (+993 12) 44-74-04, 44-76-05; Faks: 44-74-01
@ Elektron poçta: minagri@online.tm



**TURKMENISTAN
MINISTRY OF AGRICULTURE
AND ENVIRONMENTAL
PROTECTION**

✉ 92nd building, Archabil avenue, Ashgabat city, 744036
☎ Telephone: (+99312) 44-74-04, 44-76-05; Fax: 44-74-01
@ E-mail: minagri@online.tm

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№ 01-950/10

To: **UNDP Country Office in Turkmenistan**

Cc: **Ulrich Apel, GEF Regional Coordinator for Eastern Europe and
Central Asia, uapel@thegef.org
Olha Krushelnytska, GEF Country Officer, okrushelnytska@thegef.org**

Subject: *Letter of Support for GEF Agency Execution for "Conservation and Sustainable Management of Land Resources and High Nature Value Ecosystems in the Aral Sea Basin for Multiple Benefits" Project*

In our capacity as GEF Political and Operational Focal Points for Turkmenistan, we hereby consider it appropriate that UNDP, the GEF agency for the aforementioned project, to carry out partial execution services for the above project/program, on an exceptional basis.

The partial execution services provided by UNDP are expected to include:

- Transparent and competitive process for complex procurement of goods, services, and works for the project, which involves foreign currency transactions. The specific procurement cases where UNDP assistance is required will be identified through a detailed annual procurement plan for the project.
- Procurement of goods and services from international suppliers (including contracting).
- Technical role (membership) for the project Procurement Committee.
- Identification and/or recruitment of key project personnel (PM, PA and key specialists/component leads) and international consultants according to UNDP norms and requirements, management of international consultant activities, other HR-related services.
- Limited financial services, including processing of payments under the contracts concluded by UNDP, which includes creating vendors, payment reconciliation, and preparation of expenditure reports (such as CDRs) to partners and donors.
- International travel support and travel settlement at the request of the project Responsible Party (when the latter is unable to provide such service).
- Financial auditing for the project.


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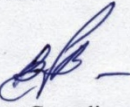
The execution services to be provided by the project Responsible Party (as identified in the Project Document) are expected to include:

- Contracting and contract management for procurement of goods, services, and works for the project at national level. Detailed arrangements for the procurement with UNDP support will be clarified through a LoA with the Responsible Party if the modality is principally approved.
- Technical role (membership) for the project Procurement Committee.
- Certification for contract performance and acceptance of goods and services as recommended by the project Procurement Committee.
- Financial management, including payments for goods and services involving national consultants and made in national currency.
- Logistical support, including duty travel for project personnel and consultants, project event management (to be detailed through a LoA with the Responsible Party).
- Equipment and Asset Management services, including IT equipment maintenance, licenses, and ICT support for the project team and project activities.
- Administrative support for the project.

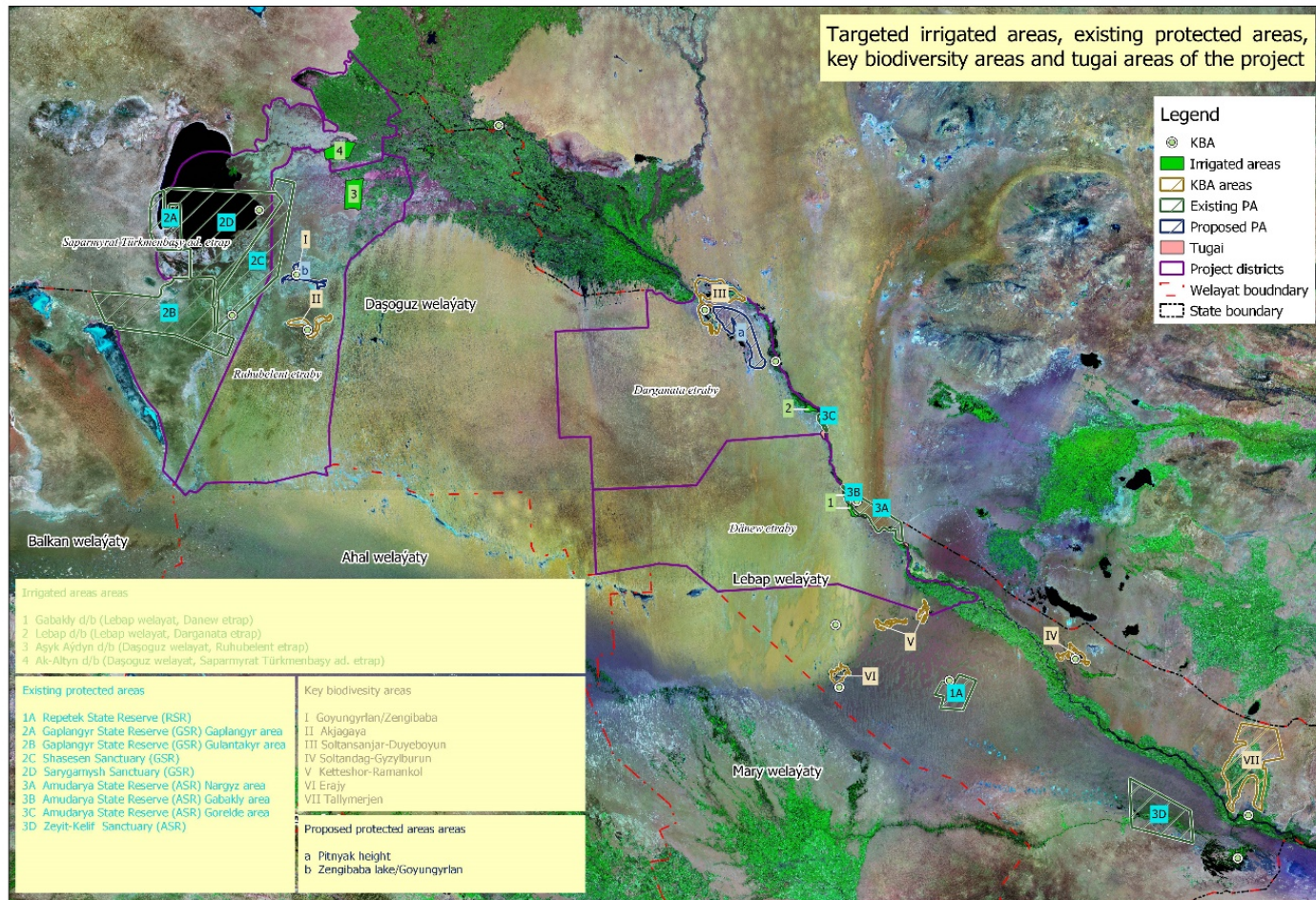
Detailed activities in support to project implementation, including those provided by the UNDP in Turkmenistan, will be described in detail in the GEF CEO Endorsement/Approval request and accompanying project documents, including the project budget.

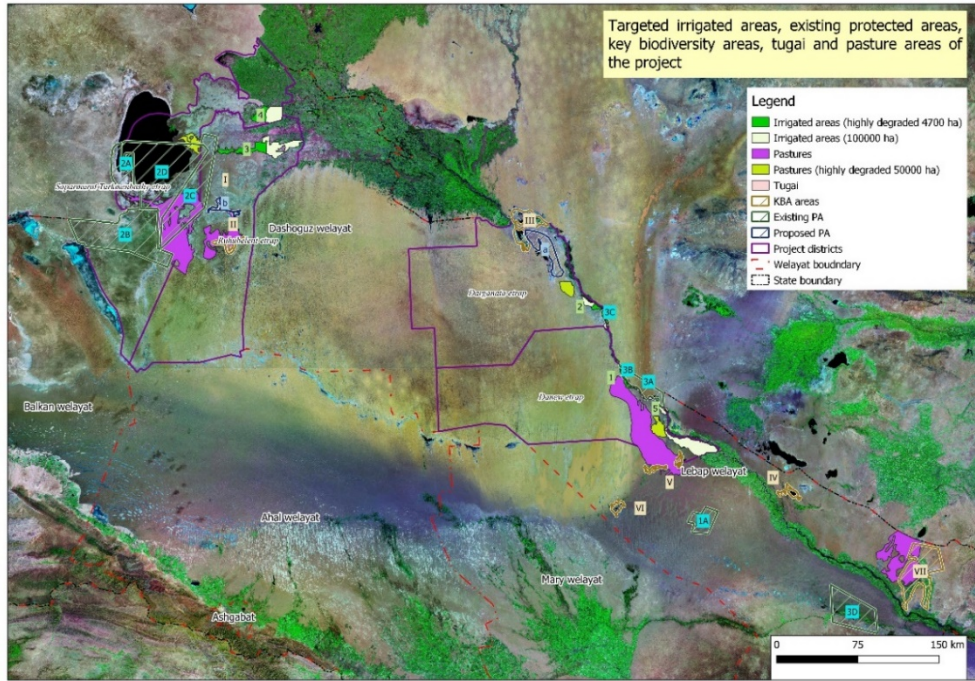
Sincerely,

Allanur Altyyev 
Minister of Agriculture and Environment Protection of Turkmenistan
GEF Political Focal Point

Berdi Berdiyev 
Head of Department on Coordination of International
Ecological Cooperation and Projects,
Ministry of Agriculture and Environment Protection of Turkmenistan
GEF Operational Focal Point

Annex 3: Project map and geospatial coordinates





Project sites	Centroid		Extent minimum		Extent maximum	
	X	Y	X	Y	X	Y
Danew district	39° 42' 41.25"	61° 49' 59.78"	39° 6' 26.93"	60° 29' 55.13"	40° 16' 47.14"	63° 29' 49.09"
Darganata district	40° 36' 16.95"	61° 12' 11.09"	40° 0' 1.08"	60° 14' 59.38"	41° 17' 29.54"	62° 23' 36.01"
Saparmurat Turkmenbashy district	41° 34' 13.38"	57° 37' 59.82"	40° 5' 30.72"	56° 29' 47.97"	42° 47' 43.98"	59° 2' 44.19"
Ruhubelent district	41° 5' 19.02"	58° 9' 23.44"	40° 1' 4.06"	57° 10' 14.83"	42° 11' 41.31"	59° 7' 29.52"
Lebap region	38° 53' 58.44"	63° 11' 54.92"	36° 51' 23.04"	60° 14' 59.38"	41° 17' 29.54"	66° 41' 3.49"
Dashoguz region	41° 9' 25.38"	58° 42' 43.79"	39° 27' 56.10"	56° 29' 47.97"	42° 47' 43.98"	61° 0' 39.24"

Annex 4: Multi-Year Work Plan

Task	Year 1				Year 2				Year 3				Year 4				Year 5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Component/Outcome 1: Promoting Land Degradation Neutrality																				
Output 1.1: Integrated landscape plans for priority areas in Dashoguz and Lebap provinces (including mapping, long term restoration plans for priority areas in and around KBAs and associated agricultural landscapes; regional Land Degradation Neutrality (LDN) targets established and action plans and monitoring systems agreed for attaining them).																				
Preparatory activities/project Inception : Drafting Project NIM Manual, AWP, COVID-19 Strategy, Setting up Project Board, Inception Workshop, hiring personnel and technical experts, finalizing agreements with IP and key partners, securing office premises.																				
Act 1.1.1 Deliver targeted capacity development for LDN within the broader SDG agenda																				
Act 1.1.2 Set up a coordinating platform for LDN work																				
Act 1.1.3 Mainstream LDN into policy framework																				
Act 1.1.4 Set up LDN targets in Dashoguz and Lebap; integrate LDN in land use planning; start monitoring ; organize regional LDN Workshop (4 th year).																				
Act 1.1.5 Develop 4 Integrated LDN Compatible Land Use Plan in the pilot districts ; start implementation																				
Output 1.2. Investment in community-based restoration of degraded arable and forest lands in 2 provinces, including saxaul planting in degraded areas; introduction of salt-tolerant crop varieties, and facilitating natural regeneration of tugai forest, with high potential for income for local communities.																				
Act 1.2.1 Restoration of 4,700 ha degraded irrigated areas																				
Act 1.2.2. Restoration of 5,700 degraded saxaul desert forest																				
Act 1.2.3 Restoration of 300 ha of tugai forest																				
Act 1.2.4 Organize the Innovation Challenge; promote the most innovative ideas (pitch ideas in front of investors)																				
Output 1.3 Efficient water management of irrigated land in four priority districts, including: maintenance of water management infrastructure, operationalization of multi-stakeholder Water User Groups (involving local communities), introduction of best practice in irrigation technologies.																				
Act 1.3.1 Develop 4 Integrated Water Management in the pilot districts covering 100,000 ha irrigated areas																				
Act 1.3.2 Set up, train and operationalize 4 WUGs																				
Act 1.3.3 Demonstrate best practices in irrigation technology and horticulture measures																				

Output 1.4. Sustainable pasture management regimes in 4 priority districts introduced raising productivity of livestock management for local communities, including: sustainable pasture management plans focusing on rotational grazing and efficient and sustainable livestock watering infrastructure																			
Act 1.4.1 Sustainable pasture regimes on 500,000 ha																			
Act 1.4.2 Pastures development plans for the restoration of 50,000 ha of degraded pastures																			
Act 1.4.3 Demonstrate sustainable pasture management and reduced pasture degradation on select plots																			
Component 2/Outcome 2/ Securing critical ecosystems for biodiversity and ecosystem services																			
Output 2.1. Management effectiveness supported for existing PAs including improved management, and targeted investments; support to local tourism potential to facilitate additional income generation for local communities at targeted PAs; control over illegal activities																			
Act 2.1.1 Develop Amudarya State Nature Reserve Management Plan, improve zoning in PAs and support wild ungulates count																			
Act 2.1.2 Support PAs infrastructure and equipment for management, monitoring and conservation activities																			
Act 2.1.3 Deliver trainings for PAs staff and management authorities including environmental inspectors and border police																			
Act 2.1.4 Deliver on eco-tourism potential (assessment and legal amendments)																			
Act 2.1.5 Strengthen capacities to prevent illegal activities																			
Output 2.2 New operational areas operationalized through new and innovative approaches covering 60,000 ha of unprotected high priority ecosystems, supported by: gap analysis, feasibility studies and technical documentation for PAs establishment, analysis of ecological flow water requirements for maintenance and conservation of KBAs at new sites; mapping, management and financial plan preparation, with clear guidance for core and buffer zones, community-based conservation activities and monitoring.																			
Act 2.2.1 Assess the protection status of the KBAs/IBAs																			
Act 2.2.2 Designate new PAs, organize community consultations, collect, store, validate biodiversity data for the new PAs																			
Output 2.3: Implementation of biodiversity-friendly sustainable use regimes in PAs buffer zones and corridors covering approx. 292,607 ha aiming to provide alternative income to local communities																			
Act 2.3.1 Identify and delineate ecological corridors and forge community-based management agreements of endangered IBA/KBAs, consensus over ecological corridors and sustainable agricultural practices around KBAs/IBAs																			

Act 2.3.2 Deliver a grant mechanism to incentivize local communities away from destructive agricultural practices. Monitor and systematize environment and socio-economic benefits																				
Component/Outcome 3: International knowledge sharing and cooperation for Aral Sea Basin																				
Output 3.1: Higher capacity for government and scientific institutions for participating in IFAS. IFAS sanctioned activities for the implementation of global and regional initiatives put forward by Turkmenistan to save the Aral Sea (e.g. Regional Environment Programme for Sustainable Development in Central Asia (REP4SD), Aral Sea Basin Programme 4 (ASBP-4) aiming at: (i) at least 3 IFAS meetings attended by Turkmenistan delegation where Turkmenistan contributes to decisions at IFAS (ii) Targeted knowledge management and exchange products (web-based, TV programs, trainings for communities and decision makers) on LD and BD issues in the Aral Sea (iii) Outreach and awareness raising on the problems of the Aral Sea basin, supporting Turkmenistan's efforts to address degradation																				
Act 3.1.1 Provide support to IFAS for finalizing, launching and implementing international and regional initiatives put forward by Turkmenistan to address the problems of the Aral Sea Basin and strengthening national capacities to participate in IFAS meetings.																				
Act 3.1.2 Deliver targeted trainings for communities and decision makers on LD and BD issues in the Aral Sea																				
Act 3.1.3 Implement and outreach and awareness campaign on the problems of the Aral Sea Basin supporting Turkmenistan's efforts to address degradation																				
Output 3.2 Knowledge management																				
Act 3.2.1 Undertake a systematization of the project's experience																				
Component/ Outcome 4:Project results properly monitored and evaluated																				
Output 4.1.1 Set of monitoring and evaluation activities implemented																				
Monitoring and evaluation activities as per M&E Plan																				

Annex 5: UNDP Social and Environmental Screening Procedure (SESP)

Project Information

Project Information	
1. Project Title	Conservation and Sustainable Management of Land Resources and High Nature Value Ecosystems in the Aral Sea Basin for Multiple Benefits
2. Project Number (i.e. Atlas project ID, PIMS+)	<i>PIMS ID 6463</i>
3. Location (Global/Region/Country)	Turkmenistan
4. Project stage (Design or Implementation)	Design
5. Date	15 May 2021

Part A. Integrating Programming Principles to Strengthen Social and Environmental Sustainability

QUESTION 1: How Does the Project Integrate the Programming Principles in Order to Strengthen Social and Environmental Sustainability?

Briefly describe in the space below how the project mainstreams the human rights-based approach

The project fully supports UNDP’s commitment to a human-rights based approach, and supports the universal respect for, and observance of, human rights and fundamental freedoms for all, but particularly in the case of this project, for the people living in the Lower Amu Darya Basin in Turkmenistan’s Dashoguz and Lebap Provinces. The project does this broadly by supporting the sustainable use of natural resources, including access to and use of biological and land resources necessary for the rural communities, including the rural poor, in the project’s geographic scope. In addition, the project will ensure and support the human rights principles of participation, inclusion and non-discrimination. More specifically, the project will carry out the following activities that support UNDP’s human rights-based approach:

- Throughout all project activities the principles of participation and inclusion will be applied. In practical terms, this means, that all stakeholders will be consulted in planning the details of project activities for the project workplans. Stakeholder groups will be fully represented in the project steering committee, which will have oversight of the project, and provide strategic guidance on project implementation.
- In all aspects of the project, the project will ensure that local communities have meaningful means of raising any concerns, to UNDP or to respective resource management authorities, including government institutions, that are involved in the project. During the project inception phase the project will specifically communicate to all stakeholders and participating communities the specific mechanism and means for raising concerns or grievances to UNDP or to government representatives when activities may adversely affect them.
- The project supports the equality aspect of human rights particularly through supporting the implementation of UNDP’s gender mainstreaming policy, as further described in the following question of this SESP.
- During the PPG phase, multiple consultations were held with local communities in the project’s target areas. In addition, under activities such as sustainable pasture management under Output 1.4, the project will work with local communities to increase participation and equality in planning how communities will sustainably use their pasture resources to ensure sustainable livelihoods.

- Under Outputs 2.1 and 2.3 the project will work with PA management staff and with local communities to increase the engagement and participation of local communities in the management of PAs. The project will work with PA staff to increase the capacity to engage and educate local community members living near PAs.
- Under Output 1.1 the project will work to improve land use planning and the management of natural resources, and align these processes with LDN principles, by facilitating local communities participation in planning (especially women and youth), access to information, data, and increasing resource management capacity. This will improve the sustainability and equitability of resource management planning in the project's priority districts.

Briefly describe in the space below how the project is likely to improve gender equality and women's empowerment

The project is fully in-line with and supportive of both the GEF's and UNDP's gender mainstreaming policies. A full gender analysis was completed during the PPG phase, which is the basis of a project Gender Action Plan. Appropriate information gathering and planning has been carried out during the project development involving key stakeholders and including women as much as possible in the local consultations and through the validation workshop. The project supports an appropriate scale of activities to score 2 per the ATLAS Gender Marker. UNDP's gender mainstreaming strategy and Gender Action Plan has identified gender disaggregated indicators, included in the project results framework. There are numerous ways in which gender dimensions are relevant to the project. The project addresses multiple types of agricultural land use, all of which have important gender dimensions, as they relate directly to the sustainability of local livelihoods. The project will work to improve the sustainability of livestock grazing in and around KBAs/IBAs. Although women are not typically directly involved in livestock grazing, they can be involved in decision-making about grazing plans, and in the processing of livestock products. The project will also work on improving land and water management in arable agricultural zones. Women do typically have a more direct role and higher level of involvement in the production of food and fiber crops.

The project will ensure that project activities relating to improved land management, such as local trainings and local decision-making mechanisms have appropriate and adequate gender representation. The project will also be working on improving management of protected areas, and will also ensure the engagement of women in decision-making bodies related to protected areas, such as local management boards. In addition, the project will also work to ensure appropriate gender equality and women's empowerment in project implementation mechanisms, such as on the Project Steering Committee, and amongst the project team of national experts and consultants involved in implementation.

The gender mainstreaming approaches are focusing on three dimensions of gender gaps, consistent with the definitions of the GEF Gender Strategy for implementation in all projects and programs of the Fund, namely: 1) Unequal access to and control over natural resources; 2) Unbalanced participation and involvement in decision making in environmental planning and management at all levels; 3) Unequal access to socio-economic benefits and services⁵⁵.

The following gender-related project interventions will be implemented (with more details provided in the Gender Action Plan):

⁵⁵ The aspects of inequality in access to socio-economic benefits and services identified in the framework of the gender analysis are addressed in the Gender Action Plan through a set of measures to increase the employment of the local population, including women, and develop alternative sources of income; through the opportunity to participate in grant programs and implement their business and social/environmental projects on their basis.

- Support to the active involvement of women in the implementation of the natural resources planning, and decision making, participation into the inter-sectorial and multi-stakeholders platforms facilitated by the project, to ensure their knowledge and innovation are fully integrated into natural resource strategies and management plans; the project promotes and sustains meaningful representation and active involvement of women in local, district and national committees, coordinating mechanism and other decision-making or networking platforms;
- Organization of tailored capacity building/training sessions for women and youth, on alternative income generation (organization of trees nurseries, eco-tourism, arts and crafts, processing fruits, vegetables and medicinal plants); support to market outreach and participation into fairs and bazaars.
- Strengthen rural women’s entrepreneurs skill; promote fair and equitable opportunities to access financing under the Micro-grant components of the project; The project will offer technical and financial support to ensure that benefits are widely accessible to women living in KBAs and their peripheries.
- Seek equitable representation of women on the project team and project board.

Organization of radio and TV talk shows with a segment dedicated to women and women farmers;

Briefly describe in the space below how the project mainstreams sustainability and resilience

To demonstrate environment sustainability, the project uses innovative approaches to mainstream biodiversity in production zones and this is coupled with the use of protected areas as key mechanisms for conserving the most critical ecosystems within the wider landscape. The project strategy addresses the root causes and barriers by supporting resource managers’ access to information about biodiversity distribution and about the carrying capacity of lands for livestock and crop production. In addition, the project strategy aims to develop the necessary capacity for implementing an integrated land use approach that integrates biodiversity in the surrounding geographies, while supporting sustainable livelihoods. Component 1 of the project focuses on addressing the degradation of land resources important for critical ecosystems and sustainable livelihoods. The Lower Amu Darya is primarily a production landscape, with intensive agricultural production in the small areas of this arid landscape that have access to irrigation. Therefore enhancing the sustainability of various forms of agricultural production is key for addressing the large-scale land degradation that exists in this region, which is primarily driven by poor land and water management, such as poor irrigation techniques, overgrazing, unregulated forest use and cutting. Key to the integrated approach is appropriate integrated land use planning to ensure the long-term sustainability of land uses for different soil types, ecosystems, and climatic conditions. The integrated approach supports multiple benefits, including improved biodiversity conservation through biodiversity-friendly land uses in and on the margins of KBAs/IBAs and efficient water management. For these high value arid ecosystems it is critical that the agricultural production (both livestock and crops) be undertaken in an integrated, well-planned manner that ensures biodiversity is not threatened, and that land resources are not degraded. The first component of the project supports resource managers and resource users to identify high priority degraded lands, and support the restoration of these lands. Component 2 of the project focuses on ensuring that the PAs in the wider landscape function as they were intended, in order to conserve biodiversity and serve as a source of critical ecosystem services beyond their boundaries. There are 2 existing protected areas in the scope of the project, covering approximately 1,077,554 ha in total. The project will support strengthening the management effectiveness of the PAs through individual capacity development for the PA staff, and the provision of critical management infrastructure and equipment (e.g. for biodiversity monitoring, enforcement, etc.). The project will also support the financial sustainability of the PAs, including business planning. To further strengthen the conservation of biodiversity in the targeted KBAs/IBAs, the project will expand PA coverage by an additional 60,000 ha (increasing PA coverage of targeted KBA by ~5%), either through the expansion of existing PAs, or the establishment of new PAs including Pitnyak upland and the heights of Altykarash, Zheldi and Muyger, part of the water areas of the Sultansanjar and Koshbulak reservoirs and Lake Zengibaba-Goyungirlan (KBAs/IBAs).

The project applies a precautionary approach to the management of environmental resources in multiple ways. Sustainable management of environmental resources requires a reasonable level of data and information about the existing pressures on those resources, the state of the resources, and current responses to supporting sustainable management. However, in many cases and particularly in Turkmenistan, there is insufficient information regarding pressures and the state of resources. In this case, wherever adequate data is lacking, the project will support the use of biological and natural resources (e.g. forest resources, pasture resources) in a precautionary manner, i.e. at a level that would be the most conservative feasible level under a precautionary approach.

The project is highly relevant to and consistent with Turkmenistan's national priorities related to land degradation and biodiversity conservation, as outlined in key national policy documents.

The project's sustainability is further anchored in, and aligned with, the national priorities and the country's international commitments under the main UN Environmental Conventions. The project is directly supporting the implementation of Turkmenistan's NBSAP 2018-2023 aligned with a) Goal II "Sustainable use of biodiversity and habitats influenced by anthropic" particularly Objective 3 "By 2023 develop and adopt a long term programme for sustainable management of natural pastures"; Objective 5 "By 2023 develop and start implementing programs for rational use of water resources of Turkmenistan, which include biodiversity" and Target 6 "By 2023, develop and implement sustainable use of water and biological resources"; and b) Goal IV "Development of natural protected areas for improving environmental protection and socio economic benefits ", Target 10 "By 2023, effective management of the protected territories will be significantly strengthened". The project supports improved policies for use of natural resources, improves the management of protected areas and raises the engagement of communities in their management, all of which are priorities within NBSAP. The project addresses key ecological gaps identified under the CBD POWPA work plan, integrates PAs into the wider landscape and involves communities in conservation efforts. The need for conservation of rare species of the high value ecosystems of the Amu Darya basin is prominent in Turkmenistan's 5th National Report to CBD. It also demonstrates an integrated approach to the improved management of PAs for under-represented ecosystems (i.e. arid ecosystems), covering a number of topics, ranging from technical aspects (capacity building of existing and new protected areas, harmonization of PA management planning, development and implementation of a comprehensive monitoring system for biodiversity and ecosystems) to socio-economic dimensions (support for alternative income-generating activities for local communities such as ecotourism, and apiculture, to integration of PAs with biodiversity conservation and sustainable land use in adjacent areas. The project directly supports the achievement of Aichi Target 12: By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained. Through the landscape approach it substantially contributes to the following Aichi Targets:

- Target 5: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.
- Target 11: By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.
- 35 • Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.

36 The project is further aligned with Turkmenistan's international commitments under UNCCD through the technical support for the development of the National Strategy and Action Plan on Combating Desertification and implementation of LDN compliant measures as well as support to LDN enabling frameworks including measures to enhance the resilience of communities and ecosystems to drought. The project further supports the country's commitments under the recently ratified Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) by facilitating cross-border wild ungulates conservation measures and joint programmes. The project aligns with the National Climate Change Strategy of Turkmenistan (2012) which includes priorities on the optimisation of agricultural production with focus on drought and salt resistant crops, improved land management (e.g. crop and pasture rotation), soil desalination and drainage measures and sustainable pasture management. The project also aligns with the Nationally Determined Contribution of Turkmenistan (2014) and with the adaptation policies which identifies agriculture and water resources as core sectors vulnerable to climate change, with a preliminary estimate of adaptation costs at approximately \$ 10.5 billion.

37 The project is aligned with the priorities set out in the main legislative framework in agriculture and water sector such as : (i) the Water Code of Turkmenistan, which stipulates (inter-alia) that inter-farm irrigation and drainage belongs to the state water management organizations, while water users are having direct responsibility for operation of irrigation and drainage network and hydrotechnical facilities at their own costs. In August 2012, Turkmenistan acceded to the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes. By joining the Convention, Turkmenistan undertook the

review of the Water Code to meet some of the basic provisions of the Convention, including the rational use of water by the transition to the basin principle of water resources management, involvement of water users in the management of water resources, and improving tariffs for water supply services to ensure its more efficient use. The programme for water management of Turkmenistan for 2018 – 2030 is currently under development; (ii) the Land Code of Turkmenistan, lists the measures for efficient use of land resources, procedures for state land management, maintenance of state land resources and monitoring, measures for improving soil fertility and conservation of natural resources.

The project further aligns with the main national policies and programmes such as: (i) The “Strategy of Economic, Political, and Cultural Development of Turkmenistan Until 2030” which sets out targets in relation to agricultural outputs. A considerable proportion of irrigated agricultural lands is planned to be transferred to the private sector enterprises. The private sector tenants will include joint-stock companies, daikhan (farmer) cooperatives and unions. These categories of land users are expected to introduce more effective and efficient water use technologies and water saving practices. At a broader level the Strategy states that the overarching national development goal is to shift to a growth model based on innovation and sustainable development; (ii) The Programme of Social and Economic Development of Turkmenistan, 2019-2025, which outlines Turkmenistan’s social and economic development objectives for the next years and reflects the main principles, priority directions, required actions and expected outcomes. The primary objectives of this programme are to continue implementation of market reforms and transition to a market-led economy, economic diversification, rational use of natural resources, improving human capital, and improving the living conditions of the population; (iii) The National Action Plan on Gender Equality 2015–2020, sets the country's strategy on achieving gender equality, and highlights 15 targets and 60 activities that include increasing women’s competitiveness in labor markets, improving maternal and child health outcomes, and the creation of gender-responsive legislation; and (iv) The “Programme for the Development of Specially Protected Natural Areas of Turkmenistan 2030” which makes provisions for the increase of the total PAs network up to the 7.18% of the territory, including KBAs/IBAs and Ramsar wetlands, ecological corridors and reserves.

Briefly describe in the space below how the project strengthens accountability to stakeholders

Through its various activities the project promotes accountability to project partners and stakeholders.

- a) The project enables active local community engagement and participation in decision making on the use of natural resource management, actively promoting participation of women, youth and disadvantaged groups. Land use planning (Output 1.1.), sustainable water management planning (Output 1.3.), sustainable pasture management regimes (Output 1.4/1.2), designation of new PAs (Output 2.2), setting up ecological corridors and community supported improved biodiversity management regimes (Output 2.3), participation in supporting grant schemes (Output 2.3) and training initiatives (Output 4.1) benefiting from agricultural extension services (Output 4.1) etc. these are all major project milestones, implemented with embedded mechanisms for meaningful participation of all the stakeholders affected, particularly those at risk of being left behind.
- b) The project ensures that everybody has access to information, through transparency of all the programmatic interventions, provision of timely and accessible information regarding supported activities (primarily captured under Component 4), including on potential environmental and social risks and impacts and necessary management measures that will be implemented based on local consensus, facilitated with the support of Local Project Committees in Dashoguz and Lebap regions and in addition. In addition, in case of designation of new PAs and ecological corridors, the Process Framework will be deployed, in an inclusive and participative manner, supported at local level by project experts and Local Advisory Committees/People Councils (Act. 2.1.1. and 2.2.2) . Transparency and access to information will empower stakeholders to accelerate transition towards accountable decision making processes and more sustainable livelihoods.
- c) The project ensures that all the stakeholders can communicate their concerns and have access to rights-compatible complaints redress processes and mechanisms. The project will ensure that in all interactions with stakeholders (consultations, meetings, web sites) information is available on how to access complaints processes. The Project’s Stakeholder Engagement Plan will ensure the stakeholder’s are engaged and informed about all activities. In addition to the UNDP Stakeholder Response Mechanism⁵⁶ which is embedded in all UNDP projects, this project will set up the project- level Grievance Redress mechanism(GRM) and will designate the Project Board/Local Project Coordination Committees, included in the Project Management Arrangements (please see Section VI project Document) as the project-GRM to ensure first of all that all the people and communities are informed of project-level grievance entry points and avoid/minimize risks of retaliation and reprisal against people who may seek information on project activities or express concerns and/or access project level grievances.
- d) The project will monitor environment and social risk management measures through effective and where possible, participatory engagement of the stakeholders. In addition, the LDN monitoring mechanism (Output 1.1.) will ensure adherence to the LDN principles (e.g. Human rights, Good governance, Participatory processes; Balanced economic, Social and Environmental Sustainability) further strengthening accountability.

Part B. Identifying and Managing Social and Environmental Risks

<p>QUESTION 2: What are the Potential Social and Environmental Risks?</p> <p>Note: Complete SESP Attachment 1 before responding to Question 2.</p>	<p>QUESTION 3: What is the level of significance of the potential social and environmental risks?</p> <p>Note: Respond to Questions 4 and 5 below before proceeding to Question 5</p>	<p>QUESTION 6: Describe the assessment and management measures for each risk rated Moderate, Substantial or High</p>
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⁵⁶ <https://www.undp.org/accountability/audit/secu-srm>

Risk Description (broken down by event, cause, impact)	Impact and Likelihood (1-5)	Significance (Low, Moderate Substantial, High)	Comments (optional)	Description of assessment and management measures for risks rated as Moderate, Substantial or High
<p>Risk 1. The modification of land use planning in the two targeted regions may lead to land use decisions that are failing to integrate the interests and concerns of the vulnerable people. This may lead to a short term limitation of access to natural resources. This could disproportionately disadvantage women and rural poor.</p> <p><i>SES Principle 2 Human Rights, P5</i> <i>SESP principle 2 Human Rights, P6</i> <i>SES Principle 3, Gender, P10</i> <i>SES Principle 3, Gender, P11</i> <i>Principle 5, Accountability, P13</i> <i>Principle 5, Accountability, P14</i> <i>Standard 5 Displacement; 5.2</i> <i>Standard 5 Displacement; 5.4</i></p>	<p>I = 3 L=2</p>	<p>Moderate</p>	<p>A key element of the project is the improvement of land governance in the country by implementing Land Degradation Neutrality, through LDN-centred land use planning. To this end, the project will identify and implement Land Degradation Neutrality (LDN) targets and actions to attain and monitor progress towards land degradation neutrality (under Output 1.1.) and will promote LDN-compatible sustainable land management (SLM) measures in the production zones (Output 2.1; 2.3)</p> <p>Land use planning in Turkmenistan is highly centralised and despite its efforts, the project could fail to consider all rural poor's concerns and land use decisions may lead to failure to fully consider the effects of the temporary restrictions in the use of land resources (e.g. temporary grazing limitations on degraded pastures).</p>	<p>The risks will be managed through the implementation of SESA and screening against LDN Check List; implementation of the Stakeholders Engagement Plan, Process Framework, Gender Action Plan and Grievance Redress Mechanism.</p> <p>The risk is partially mitigated by the project activities. One of the requirements for reaching and maintaining land degradation neutrality (LDN) and advancing land restoration and rehabilitation is the adherence to the LDN principles. Among the LDN principles underpinning the vision of LDN there are several principles that are highlighted below, which will be uphold. The project will hire qualified national and international land use and LDN experts to guide local authorities and the LDN land use planning activities to ensure the adherence to the LDN principles.</p> <p>The mere adherence to these principles and the screening against the LDN Checklist (per project Annex 26 LDN Checklist/ activity 1.1.3 and activity 1.1.4) should be able to provide the means to manage the risk of failing to appropriately take into consideration and mitigate the potential economic displacement resulting from LDN centered land use plans. LDN is anchored by several principles that are ensuring a human rights approach, balanced economic-social-environmental sustainability and participatory and inclusive mechanisms. These</p>

				<p>principles are key in mitigating risk and will be upheld.</p> <p>However, those plans will nonetheless be prepared following an appropriately scoped/scaled SESA approach (with a subsequent ESMF if determined necessary per the SESA for compliance with the SES and national law).</p> <p>The knowledge and information generated from the land degradation neutrality (LDN) target setting and subsequent implementation and monitoring LDN progress and reporting LDN benefits (Act 1.1.4) further enhances accountability and monitoring of adherence to LDN principles. This knowledge can be used to evaluate the effectiveness of interventions in maintaining land-based natural capital (e.g. the outcomes of counterbalancing mechanism), to consider the effectiveness of safeguards (e.g. protection the rights of local people) and to inform future land use management decisions.</p>
<p>Risk 2: The modification of resource management regimes through the implementation of sustainable land management (SLM) measures (e.g. forests, pastures, agricultural lands) implemented in support of long-term sustainability could affect short-term access and use of resources by local communities, including the rural poor and women.</p> <p><i>SES Principle 2 Human Rights, P5</i></p>	<p>I = 3 L = 2</p>	<p>Moderate</p>	<p>The project will be supporting improved management of agricultural lands, pasture resources, and sensitive ecosystems encompassing Key Biodiversity Areas, through the promotion of Sustainable Land Management (SLM) measures that in the medium and long term will lead to an increased land productivity and improved livelihoods. When modifying existing resource use and management regimes, there is always a possibility of some modification to the enjoyment of human rights or potential economic displacement of individuals living near or otherwise</p>	<p>Targeted assessments of potential economic displacement will be carried out by qualified experts in a participatory manner with stakeholders during inception phase. The assessment will evaluate potential economic displacement impacts associated with the planned activities (as noted in the ESMF). Identification of timebound measures to avoid, reduce, mitigate and manage potential impact will be captured in an assessment report and revised SESP. If determined necessary by the targeted assessment, then a stand-alone management plan (i.e. Livelihood Action Plan) will be prepared to capture those management measures (please see ESMF Annex as a separate report/Project Document).</p> <p>In addition, the SESA will cover the Pasture management plans (Output 1.4), Sustainable Water Management Plans (Output 1.3) and Sustainable LDN</p>

<p><i>SESP principle 2 Human Rights, P6</i></p> <p><i>SES Principle 3, Gender, P10</i></p> <p><i>SES Principle 3, Gender, P11</i></p> <p><i>Principle 5, Accountability, P13</i></p> <p><i>Principle 5, Accountability, P14</i></p> <p><i>Standard 5 Displacement; 5.2</i></p> <p><i>Standard 5 Displacement; 5.4</i></p>			<p>using territory included in the targeted area.</p> <p>The Risk is preventatively rated Moderate. However, UNDP has extensive experience working in Turkmenistan on similar types of interventions.</p>	<p>compatible Land use Plans (Output 1.1.) in order to evaluate the potential social and environmental effects of the project's upstream activity which impacts on resource management regime.</p> <p>The risks are not deemed to be significant due to the fact that the envisaged Sustainable Land Management(SLM) and resilient measures will be implemented on farm land, on farmer associations' areas where the land is already allocated on the basis of long-term leases and only based on their agreement to participate in the project activities. Therefore, issues such as customary rights or land tenure are unlikely to be triggered by the project. A participatory planning and decision-making process will ensure that any potential restrictions on the use of resources will not be imposed on the members, but defined through a collective decision-making process at the community level.</p> <p>Part of the Stakeholders Engagement Plan a project-level Grievance and Redress Mechanism (GRM) will be established and published so that all stakeholders, including remote communities are aware of its existence. The Project Manager and Local Field Coordinators will be responsible for documenting all grievances and ensuring they are addressed in a timely manner.</p> <p>During the project inception phase, the Daikhan Associations will be contacted and the selected areas for demonstration activities will be validated. The Screening, Assessment and Management activities at the demonstration site are captured in the ESMF.</p> <p>Throughout the implementation, the project will continue to be working closely with all stakeholders to ensure that they are adequately consulted and their considerations integrated in the modification of resource-use regimes. In any cases where there may be adverse impacts, mitigation and compensation measures will be developed and implemented.</p>
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				<p>such vulnerable members of community among beneficiaries represents a selection criterion.</p> <p>With respect to gender, a gender analysis has been undertaken (as required), and a Gender Action Plan developed. The project will hire a gender expert that will supervise the implementation of the Gender Action Plan.</p>
<p>Risk 3: Expansion of PAs system could lead to potential limitations or restrictions of the use of natural resources.</p> <p>Strengthening management of existing PAs, such as improved PAs zoning, strengthening the sanctuaries' protection regimes, and/or creation of ecological corridors could further restrict access to and use of biodiversity resources by local communities, affecting livelihoods.</p> <p><i>SES Principle 2 Human Rights, P5</i> <i>SESP Principle 2 Human Rights, P6</i> <i>SES Principle 3, Gender, P10</i> <i>SES Principle 3, Gender, P11</i> <i>Principle 5, Accountability, P13</i> <i>Principle 5, Accountability, P14</i> <i>Standard 5 Displacement; 5.2</i> <i>Standard 5 Displacement; 5.4</i></p>	I=3 L=3	Moderate	<p>The project will design two new PAs under Output 2.2. (Act. 2.2.2) based on initial assessments during the PPG and a dialogue with the national authorities. The 40,000 ha Pytniak upland and surroundings and the 20,000 ha Zengibaba Lake have been selected for PA designation.</p> <p>Local communities in the project area could face economic displacement due to the expansion of the PAs system (new PA designation in Darganata and Ruhubelent districts). Certain land use activities would likely be prohibited or restricted as part of these processes.</p> <p>Together with the significant environmental benefits that come with the designation of new PAs and delineation of community endorsed ecological corridors, there are potential risks for example restrictions/limitations of the use of natural resources that may be at odd with the current agricultural practices of the local communities in project areas. There is a risk that not all key user groups of natural resources at project sites are</p>	<p>The risk management measures will be implemented primarily through the Process Framework, Stakeholder Engagement Plan, Gender Action Plan and project level GRM.</p> <p>The project's qualified experts (specialised safeguards experts/consultancy company; conservation biologists, environmental economist, pasture and forest expert and community outreach officers), local coordinators, technical support staff and ministry counterparts will support the implementation of the Process Framework, in order to ensure the management of the economic displacement risk</p> <p>During the consultations, the project manager supported by the project's field coordinators and local community outreach will ensure that any potential risk of economic displacement in the affected communities, resulting from the designation of new PAs will be mitigated through the <i>Process Framework</i> (as per SES requirements, please see ESMF annexes as a separate report). The <i>Process Framework</i> would include the following elements: (i) Assessments of the socio-economic conditions of the local communities, highlighting the type and extent of the community use (and use by men and women) of natural resources in the targeted areas, and the exiting rules and institutions for these and management of natural resources, including customary use rights; (ii) Assessment of threats and impacts on the relevant areas and local communities from various activities (e.g. poachers, traders, development activities) ; (iii) Assessment of the potential livelihoods impacts on men and women of new restrictions on the use of natural resource management in the proposed areas. (Please see Annex 16 Stakeholders Engagement Plan, including the <i>Process Framework</i> template).</p>

			<p>consulted in project implementation and they will be affected by the restrictions on the use of natural resources. Especially since the targeted protected areas are primarily in remote rural areas, and the inhabitants in such regions typically have a higher percentage of people living in poverty, and/or marginalized groups that are likely to be on the verge of exclusion.</p>	<p>Facilitation of local round table meetings will be supported by the Local Advisory Committees (People Councils) in the respective districts/villages and by the daikhan associations managing the land. Evaluation of the necessity of compensatory mechanisms and eligibility criteria, describing the measures that will assist the potential affected persons to improve their livelihoods will be identified as the result of these assessments and discussions. The project manager will ensure that Information and guidance to local communities about the UNDP Conflict resolution and grievance mechanism is provided. The formal process of the new PAs designation will not commence before/unless securing consensus with the local communities over the PAs border, management arrangements and monitoring measures (please see Annex 16 Stakeholders Engagement Plan / Process Framework Template; and Annex 5, SESP) .</p> <p>Furthermore, the Stakeholders Engagement Plan contains meaningful engagement measures and stakeholders roles and responsibilities. During the project implementation, the Stakeholder Engagement Plan will be updated to fulfill the requirements of Standard 5 in the first year of implementation before the relevant activities begin management. Designation of PAs and any changes to the natural resources regime identified as having the potential to lead to limitations and restrictions of access to resources, will not be implemented until/unless suitable, agreed management measures are in place. All the necessary approvals will be obtained from national and local authorities (particularly the Ministry of Agriculture and Environmental Protection) before the activities, and in line with the Process Framework (and UNDP SES).</p>
<p>Risk 4. Enforcement of PAs regime and of wildlife corridors, following applicable environmental norms and legislation could pose risks to conflicts between rangers and</p>	<p>I=3 L=3</p>	<p>Moderate</p>	<p>Enforcement issues of the environmental regulations in the new PA may lead to conflicts between the rangers and the local community or among different local community members.</p>	<p>The Management measures will be addressed through the Process Framework, Stakeholders Engagement Plan, Gender Action Plan and project level Grievance and Redress Mechanism.</p> <p>In addition, the project will ensure that management measures will be include in the new PAs management</p>

<p>local communities engaged in traditional livelihoods and practices.</p> <p><i>SES Principle 2 Human Rights, P2</i></p> <p><i>SES Principle 2 Human Rights, P7</i></p>			<p>When working in developing countries there exists a risk that the entity responsible for PA management (be it governmental authority or community organization) does not have the full capacity necessary to fulfill their duties in terms of governance, administration, and management of natural resources. The enforcement personnel need to be appropriately trained to implement legal enforcement and manage relationship with local residents.</p>	<p>plans (Sanctuaries, IUCN IV) to be further embedded under in the corresponding larger State Reserves management Plans (i.e. Gaplanyr and Amudarya) , as these Sanctuaries will fall under the jurisdiction of one or the other of above-mentioned state nature reserves. The project’s qualified experts, including the Capacity Development experts, local coordinators, technical support staff and ministry counterparts will work with the Local Advisory Committees (People Councils) and facilitate the assessments, local dialogue and round table meetings that the process involves.</p> <p>In addition, the project will train PA personnel, border inspectors and central and local authorities with an emphasis on human rights principles (in line with the SES).</p> <p>Some of the trainings will target specifically community outreach related topics , and addressing illegal activities "<i>Interaction with local communities" (opportunities for engaging local population in biodiversity conservation, joint patrolling of territories, protection of key sites)- Act. 2.1.3.</i> A total number of 10 training workshops for the PAs staff; 3 trainings for central and local authorities and 2 trainings for border inspectors will be supported by the project.</p> <p>Furthermore, the project will facilitate regular meetings between PA managers, ranger patrol staff, communities, inspectorates, border security in or in the proximity of the core areas to analyse trends in monitoring and legal compliance, aiming at addressing ongoing threats in a collaborative manner, including issues related to cross-border migration of wildlife (Activity 2.1.5.).</p> <p>Per the project’s design, the “ <i>Council for the Management of Protected Areas</i>” will be set-up</p>
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				<p>under the coordination of the Department of Environmental Protection and Hydrometeorology within the Ministry of Agriculture and Environmental Protection, in order to coordinate the implementation of measures to prevent illegal activities, and keep a closer communication with local communities, involving them in as much as possible in the development of alternative sources of income. The Council for the Management of Protected Areas will then facilitate the creation of joint teams in Dashoguz and Lebap provinces, of gamekeepers together with representatives of United Society of Hunters and Fishermen, the Nature Conservation Society, representatives of Forestry Enterprises and employees of the Ministry of Internal Affairs and environmental protection departments of the province authorities to ensure compliance with anti-poaching measures and involve local population in species monitoring. SES Requirements will be mainstreamed in the TORs of the Council. This will strengthen accountability and will lead in the long terms to responsible conscientious local communities, transitioning to sustainable biodiversity friendly practices.</p>
<p>Risk 5 Government resource management authorities may not have the capacity to fulfill all aspects of their mandate, and rural resource users may not have the capacity to claim their rights, which could potentially lead to the violation of human rights.</p> <p><i>SES Principle 2 Human Rights, P2</i> <i>SES Principle 2 Human Rights, P3</i></p>	<p>I = 3 L = 3</p>	<p>Moderate</p>	<p>There is a risk that institutional government duty-bearers related to the management of high value Aral basin ecosystems and land resources do not have the capacity to meet their obligations.</p> <p>In addition, by the same principle and rationale of the fact that the project will be working on natural resource management issues in rural and remote areas, there is a risk that resource users and other rights holders do not have the capacity to claim their rights. Such resource</p>	<p>Based on the SES screening the risk has been revised at PPG stage and rated Moderate. The project will be working closely with all stakeholders to support government natural resource management authorities and institutions to meet their obligations, and with resource user rights holders to claim their rights.</p> <p>It is expected that the risks will be mitigated by the project's targeted trainings of the local and national decision makers as well as natural resource users on specific themes such as: LDN and no-net-loss approach and Integrated Land Use Planning (Act 1.1.1) ; Efficient water use and integrated water management planning (Act 1.3.1; 1.3.2) ; Sustainable pastures management (Act 1.4.1); Environmental</p>

			<p>users living in rural and remote areas may not be fully educated and informed about what their rights are (in this case, in relation to usufruct or other natural resource-related rights), or the procedures to claim those rights. There is a risk that rights holders may not have the legal, self-organizing, or financial means to claim their rights. The risk is assessed based on situation and context that the project will be working in. The fact that there is limited capacity on both the part of the government and rights holders is an inherent element to working on sustainable livelihoods in developing countries.</p>	<p>legislation enforcement, PAs patrolling, Human rights (Act 2.1.3-2.1.5); Sustainable management of regional water resources/Water Diplomacy (Act 3.1.1-3.1.2); Strengthening Extension services (Act 3.1.1). The project implementation will include national and local stakeholders' consultation during the development of the training modules and other/different handouts and information materials that will be used during the training seminars and some of them will be based on Training Needs Assessments. The training seminars will include evaluation forms and training formats will be flexible to adapt to participants needs.</p> <p>Multiple stakeholder consultation sessions during all relevant aspects of the project will ensure that all parties are aware of and understand the relevant obligations and rights.</p> <p>As with the previous risks, the project will be working closely with all stakeholders to support government natural resource management authorities and institutions to meet their obligations, and with resource user rights holders to claim their rights. This will be accomplished through multiple stakeholder consultation sessions during all relevant aspects of the project to ensure that all parties are aware of and understand the relevant obligations and rights.</p>
<p>Risk 6: Project activities intended to reduce threats to critical habitats and environmentally sensitive areas could potentially end up harming them</p> <p><i>SES Standard 1 Biodiversity and NRM, 1.1</i> <i>SES Standard 1 Biodiversity and NRM, 1.2</i> <i>SES Standard 1 Biodiversity and NRM, 1.7</i></p>	<p>I=3 L= 3</p>	<p>Moderate</p>	<p>The project specifically targets the conservation and sustainable management of critical habitats, environmentally sensitive areas, and legally protected areas in the high value ecosystems of Turkmenistan's Lower Amu Darya basin. The conservation, protection, and sustainable use of these areas is the objective of the project. Therefore, the likelihood of these risks is "moderately likely". However, given that the objective of the project is to enhance the environmental and</p>	<p>Based on the SES screening the risk has been revised at PPG stage and rated Moderate. The ESMF further identifies the steps for detailed screening and assessment of the risks, potentially related to the undefined activities and for preparing and approving the required management plans for avoiding, and where avoidance is not possible, reducing, mitigating and managing these potential adverse impacts The project will conduct targeted impact assessment at sites for activities that are not fully defined.</p> <p>The qualified project's conservation biologists/landscape biologists will work with the safeguards experts/company to properly identify</p>

Standard 8; 8.2			<p>social qualities of these areas, the risk of negative social and environmental impacts is considered limited in scale and manageable through applicable standard practices . Although the social and environmental risks are considered moderate, limited in scale and with the likelihood of being reasonably managed, and the sites are at sufficient distance from the protected areas, there will be nevertheless minor changes to the farm landscape, existing flora and fauna species at the construction sites and local settlements such as minor changes in land cover and potential damage to the vegetation type; temporary disturbance of rodent burrows or bird nests may be possible.</p>	<p>risks and proposed mitigation options for both upstream and downstream activities.</p> <p>During the project inception the exact location of the sites selected at PPG stage with the representatives of the Daikhan Associations, will be clarified , and aligned with the re-structuring process of the Daikhan Farms that was ongoing during the PPG phase. Therefore new screening and assessments of each proposed activities and demonstration site will be implemented prior to the implementation of activities to ensure that any impacts are identified, significance established and management measures selected.</p> <p>Based on the screening of the potential risks during PPG assessments, several management measures have been included in the project design, (e.g. Output 1.3 Act 1.3.3 and Output 1.2/Act 1.2.2) . The project will select several areas in order to demonstrate sustainable agricultural practices around Protected Areas (PAs) or Key Biodiversity Areas (outside PAs). These demonstrative activities will be agreed with the local authorities, respective land managers (lessees) and project specialists. The project design includes activities with no or minimal risk to the critical or sensitive habitats.</p> <p>The technologies envisaged to be implemented by the project have been previously tested by various donor supported initiatives including UNDP: e.g. efficient irrigation technologies (drip, sprinkler etc.); cleaning of small portions of the on-farm irrigation canals; leveling and land management; land stabilization (planting of trees); wells rehabilitation; use of organic fertilizers. The project will in any case conduct targeted screening and assessments at intervention sites.</p> <p>The project will ensure alignment with applicable legislation and UNDP Social and Environmental</p>
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				<p>Safeguards , including that these provisions are included in the third party contractual agreements.</p> <p>As a precautionary measure contractual terms (for subcontracts who will be involved in restoration / conservation activities) are going to fully integrate regular step-by-step monitoring of each phase of a conservation / restoration activity and only proceed to the next stage when no harm confirmed. In case any of the contractor’s activities going off track, the contracts will have a clause for the subcontractor to rectify (on his own account) any deviation from the targeted result that the TOR envisage.</p>
<p>Risk 7: The project activities re-planting native tree species could have unforeseen ecological consequences.</p> <p>Standard 1 Biodiversity and NRM, 1.8</p>	<p>I = 2 L = 2</p>	<p>Low</p>	<p>The planned project activities include small amounts of reforestation. Output 1.2 includes reforestation of high value arid saxaul forest ecosystems. The assisted regeneration of a small portion of tugai forest ecosystem will be further supported by the project. The project team will work with the partner local forestry services and qualified project experts to ensure ecologically appropriate locations for planting trees, and will use native species (this is the purpose of the activity). The relatively small area of tree planting means that any ecological impact will be with a limited impact in case of a potential adverse effect. The overall environmental impact – considering the benefits of the planted trees – is expected to be positive. The purpose of the activity is to restore areas of forest that have been degraded.</p>	<p>No measures needed as the risk is low.</p>
<p>Risk 8: The expected project impacts of the conservation of endangered and threatened species, restoration of</p>	<p>I=3 L=2</p>	<p>Moderate</p>	<p>Adverse impacts of extreme climatic events (drought; sand and windstorms; seasonal floods) can affect project’s interventions in the</p>	<p>Based on the SES screening the risk has been revised at PPG stage and rated Moderate. The management measures will be implemented through the project’s envisage climate risk assessments and through</p>

<p>degraded land, and sustainable management of forest and pasture resources could be sensitive to changing climatic conditions in the future.</p> <p><i>SES Standard 2 Climate Change Vulnerability, 2.2</i></p> <p><i>SES Standard 2 Climate Change Vulnerability, 2.4</i></p>			<p>field and the livelihoods of local communities living in the target areas.</p>	<p>activities that will demonstrate and put in place sustainable land management measures grounded by scientific principles and participatory mechanisms that will enable stakeholders to adapt the management of natural resources to any given context and threats. Attention to the current and potential impacts of climate change has been built-in to all aspects of the project.</p> <p>The project team will work with qualified experts and will conduct climate-risk assessment (Act. 1.3.1) to identify the most appropriate mitigation measures. In fact, several multi-disciplinary land and water resources assessments including climate risk assessments, the results of which will inform LDN compliant integrated land use plans and rationalised water management practices in the targeted districts.</p> <p>The climate risks and vulnerability assessments for the water sector includes hydroclimate projections under different climate change scenarios to inform integrated water management planning in the targeted districts. The prioritised climate risks will be followed by the validation of appropriate combination of SLM measures that will address these risks and will consider unique risks posed to vulnerable groups including women. Furthermore, the project adheres to LDN Principles and will screen the activities against the LDN Checklist. The ecosystem management benefits will be mostly associated with the resilience of land and water management resources, sustainable management regimes and rationalised and efficient use of water resources for improved management of land and forests</p> <p>The project will further ensure that the partners and stakeholders will apply the best available climate change forecasts data for Turkmenistan’s lower Amu Darya basin, and will ensure that all project activities and plans take potential future climate impacts into consideration. For example, the project’s land</p>
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				<p>restoration demonstrative areas will prioritize “LDN hot spots” support for the cultivation of trees, shrubs and herbaceous halophytes on salt resistant crops is of significant ecological importance in Turkmenistan, helping local communities adapt to these conditions. Afforestation with saxaul will mitigate the impact of salt and sandstorms.</p> <p>Sustainable management of KBAs and desert pastures will review climate data and climate change projections as part of the development and implementation of sustainable management measures. The project will also identify potential gaps in the existing system of PAs in order to effectively conserve biodiversity, considering the potential for ecosystem change and ecological shifts due to climate change impacts. The project’s work to support sustainable land and water use will also be grounded in the best available and most recent climate science relevant for this region of Turkmenistan. As part of the project’s work on strengthening the management effectiveness of PAs it will also strengthen environmental monitoring capacities in order to better track the future effects of climate change within PAs and the targeted KBAs more broadly.</p> <p>As a result of climate change, decreases in water supply are predicted by all the hydroclimatic models. Water scarcity may have negative impact on the implementation of new technologies at demonstration sites. With regard to the potential impacts on the GHG emissions or other drivers of climate change, currently undefined project activities may lead to purchasing and installing irrigation water pumps as part of improved efficiency irrigation systems. The additional energy consumption driven by this equipment, it is not estimated to be significant though, due to the following reasons: (i) in cases where the project will be replacing the old/existing pumps, much more energy efficient equipment will</p>
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				be installed to replace inefficient equipment resulting in the reduction of energy use; (ii) in cases where the project will be purchasing new water pumps, clear energy performance requirements will be included in the specifications for the new equipment.
<p>Risk 9: Project activities involving local/field interventions and close engagement with local communities may inadvertently contribute to the spread of COVID-19.</p> <p>Standard 3 Community Health, Safety and Security, 3.4</p>	I=3 L=3	Moderate	Activities at local level are based on participatory approaches, and most of the times will include meetings and local consultations. There are a number of training workshops and awareness events, round table meetings etc.	The risk will be mitigated through adequate safeguards such as: (i) clear procedures in place in case of COVID19 reinstatement of restrictions, approved during project inception (ii) use of protective equipment, maintaining social distancing and using remote methods of engagement whenever possible (iii) if adequate safeguards cannot be put in place, activities that entail close local communities engagement will be put on hold if necessary, and work programme/budget will be revised as needed. wherever possible on-line meeting platforms will be used and travel decreased. All project meetings will be organized mindful of government regulations and healthy standards and other appropriate safeguards (including those of UNDSS).
<p>Risk 10: The project may inadvertently contribute to potential perpetuation of discriminations against women. There are lingering disparities between men and women, particularly in rural areas and in the patriarchal cultures of some of the ethnic minority communities, which could be inadvertently replicated.</p> <p><i>SES Principle 3, Gender, P10</i></p>	I=2 L=3	Moderate	The Project could potentially perpetuate discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities. In the pilot farmers associations and livestock farming sector, women account for around 51-52% of the population. They are mainly engaged in housekeeping, teaching, and administrative support services. Many more women form part of the unpaid family labor in home farming and lease of agricultural lands.	The management of this risk will be done primarily through the implementation of the Gender Action Plan (GAP) and will be monitored by the project specialized experts. The project design has consistently mainstreamed gender sensitive approaches and has created opportunities for tackling women's needs, ranging from designing tailored training activities to organizing dedicated segments of radio programmes for women farmers. The project will provide ample opportunities for women to learn about LDN and SLM measures and resilient livelihoods and integrate best practices into their farm practices. Though the training programs and Farmer Field Schools, women will also be able to access the capacity building and training required to practice climate-resilient agriculture, as well as to diversify their livelihoods in more resilient ways. The project will ensure gender balance in project

				<p>activities (e.g. seminars, community level events) including in the membership of different decision-making bodies (Working groups; Project Boards; People Councils; Evaluation Committees) including access to project financial assistance (grant scheme). Gender considerations will inform any community level vulnerability analysis linked to local infrastructure or demonstration plot development through consultation regarding needs and preferences on types of training and investment. The project will also gather gender-disaggregated data for evaluation purposes and use gender sensitive indicators (particularly around beneficiaries) to facilitate planning, implementation and monitoring. Complaints will be addressed through the project level Grievance redress mechanism.</p>
<p>Risk 11 The project may fail to ensure that labor rights, especially of vulnerable groups, are respected by local subcontractors. There could be risk of forced child labor at project sites.</p> <p><i>SES Standard 7; 7.1</i> <i>SES Standard 7; 7.3</i></p>	<p>I=2 L=3</p>	<p>Moderate</p>	<p>Turkmenistan ratified all ILO main conventions. The information on the ILO website with regard to application of labor standards in Turkmenistan reveal no major observations and issues. There are however independent media streams revealing that forced labor is still practiced⁵⁷.</p>	<p>The Risk is rated Moderate. The project will ensure that national working standards (Labor Code) are respected for all the project activities</p> <p>The requirements of this Standard are to be applied in an appropriately-scaled manner based on the nature and scale of the project, its specific activities, the project's associated social and environmental risks and impacts, and the type of contractual relationships with project workers.</p> <p>The management procedures will be that specific requirements of the terms and conditions of the employment will be established, that will:</p> <ul style="list-style-type: none"> - Comply with minimum age requirements set out in International Labour Organization (ILO) Conventions or national legislation (whichever offers the greatest protection to young people under the age of 18) and keep records of the dates of birth of all employees verified by official documentation - Check the activities carried out by young workers and ensure that children under 18 are not employed in hazardous work, including in contractor workforces. Hazardous work will

⁵⁷ <https://www.solidaritycenter.org/children-forced-labor-turkmenistan-cotton-fields/>

				<p>normally be defined in national legislation and will be likely to include most tasks in construction and several in agriculture.</p> <ul style="list-style-type: none"> - Assess the safety risks relating to any work by children under 18 and carry out regular monitoring of their health, working conditions and hours of work - Ensure that any workers aged 13-15 are only doing light work outside school hours, in accordance with national legislation, or working in a government-approved training programme - Ensure that contractors have adequate systems in place to check workers' ages, identify workers under the age of 18 and to ensure that they are not engaged in hazardous work, and that their work is subject to appropriate risk assessment and health monitoring <p>In addition, the Project will ensure that appropriate wages will be paid per assigned tasks. Security and safety standards will also be respected and enforced. In addition to the UNDP Stakeholder response mechanism, the project will set up a project-Grievance Redress Mechanism to provide for a fair and free from influence entry point for their potential complaints and/or grievances. The Complaints Register and Grievance Redress Mechanism will provide an accessible, rapid, fair and effective response to concerned stakeholders, especially any vulnerable group who often lack access to formal legal regimes.</p>
<p>Risk 12 There is a risk that the choice of irrigation technology may lead to an increase in the use of surface water.</p> <p><i>SES Standard 8; 8.6, SES Standard 1; 1.11</i></p>	<p>I=3 L=3</p>	<p>Moderate</p>	<p>The project's work under Output 1.3. will result in approximately 100,000 ha of irrigated land under sustainable water management. Under this output the project will demonstrate small scale local farm level repairs and improvement of irrigation systems (e.g. pumps; canals). The plans are expected to be funded and implemented by the government; therefore the impact is considered</p>	<p>This risk will be managed through SESA/ESMF (as needed) In addition, the project's deployment of qualified specialists (hydrologists, engineers) will ensure that the development of the Sustainable Water Use Plans (Act. 1.3.1) and will entail guidelines and specifications for the most efficient irrigation technology and cost effectiveness deliberations are included in the cost benefit analysis. In addition the Sustainable Water Use Plans will include a Monitoring mechanism to be implemented by local authorities and daikhan farms in order to monitor</p>

			<p>Moderate. Although the water management planning will indicate the technology to be used in order to reduce water wastage and improved resource efficiency, there is the risk that the choice of water irrigation technology would lead to increase water consumption.</p>	<p>water use trends. With regard to the demonstration activities at sites (Act. 1.3.3.) the project's specialists will ensure that the appropriate technology is used, improvement works are designed and implemented in an appropriate manner and resource efficiency is considered. UNDP has accumulated solid experience in successful demonstration and promotion of water and energy efficient practices, which will be used through this project. The irrigation technologies that UNDP promotes are efficient in terms of rational water use and leave minimal or no drainage waters. Furthermore, more innovative and emission and waste-free options are rigorously being investigated now within the ongoing projects, such as solar-powered water pumping and treatment facilities to satisfy both household and agricultural needs, primarily in remote desert areas, where traditionally diesel is used for similar purposes. Thus, resource efficiency will become the backbone for defining and implementing technologies and equipment at the project's proposed sites, each of which will have a dedicated action plan and a cost-estimate.</p> <p>The design of demonstration projects featuring new water saving technologies will be based on careful hydrological studies in the chosen locations, that follow SES requirements and includes targeted screening at site (as necessary), and that would take into account the hydrographic parameters of the landscape, available water sources, their quantity and quality. Experienced local experts, drawing on international expertise as necessary, will carry out these engineering and hydrological studies. Irrigation technologies will also be monitored to assess water consumption trends.</p>
<p>Risk 13 The project's small scale, on-the-ground works may pose safety risks to community members.</p>	<p>I=3 L=2</p>	<p>Moderate</p>	<p>Project activities that entail possible public health concerns are not envisaged, quite the contrary, the project will contribute to enhancing public health, as it seeks to improve the social and economic environment</p>	<p>The risk is managed through the targeted assessments at site. Targeted assessments are envisaged for all the project activities and restoration works, including specific impact assessment at sites for other activities that are not fully defined.</p>

<p>SES Standard 3; 3.3; 3.6</p>			<p>as well as the physical environment. All the works envisaged at project sites are at the lowest level of the irrigation system (i.e. at the level of farm canals/pumps/wells) but some risks of ground work infrastructure malfunction that could pose some safety risks may exist (e.g. repairs of wells) or minor disturbance of top soil where slipping or other small safety hazards are not excluded.</p>	<p>The project will primarily focus on restoring degraded and saline lands and support small repair of on-farm irrigation system. The contractors will ensure that structural elements and services (e.g. transportation) are designed, constructed, operated and decommissioned in accordance with the legal requirements and good international practice. Structural elements of any infrastructure that may pose significant health and/or safety analysis will be constructed by qualified engineers and professionals and include appropriate measures for supervision, quality assurance, operation and maintenance. The project’s specialists including the safeguards expert will ensure that actions are taken to avoid or minimize any potential safety risks. The safety specialists appointed by the construction company will ensure compliance with applicable safety rules during the repair works. Appropriate signage and delineation of the works area on the ground will be ensured and temporary used access point should be as close as possible to the project site in order to produce a minimum disturbance on the surrounding environment. Health and Safety Plans will be implemented by sub-contractors for all construction activities according to the applicable legislation. Regular monitoring will be conducted for compliance with national construction norms and standards.</p>
<p>Risk 14 The project supported demonstration activities may inadvertently be implemented at/in proximity of significant cultural and historical significance sites.</p> <p><i>SES Standard 4; 4.1; 4.2</i></p>	<p>I=3 L=3</p>	<p>Moderate</p>	<p>The project sites for outputs 1.3; 1.4 have been carefully selected during the PPG based on several criteria chiefly among which is the land condition and water irrigation system and proximity to PAs. The demonstration areas are located on daikhan farm estate and have been already used for decades for agriculture and animal husbandry. The selected sites are located around PAs. There is very low risk that these sites or other demonstration sites</p>	<p>The mitigation of this risk will be done through the Process Framework, Stakeholder Engagement Plan and SESA/ESMF. The presence of the sites of cultural or historical significance will be re-assessed during the land use planning activities under Output 1.1.. Moreover, during the inception stage, the comprehensive stakeholders consultations will validate the sites selected at PPG stage. Where potential adverse impact is detected and if deemed significant, then a Cultural Heritage Management Plan should be developed, part of the ESMP. The project will ensure that <i>chance find</i> procedures are included in all plan and contracts regarding project-</p>

			<p>that could be further selected (for output 1.2), be overlapping with cultural and/or historically significant sites.</p> <p>Turkmenistan has three sites under the List of World Heritage Sites. In the project targeted regions, there is only one site included in the World Heritage List namely the Soltan Tekesh Mausoleum, situated in Dashoguz province in Konye-Urgench city, located on the south side of Amudarya River. All the project's demonstration sites are located in the PAs surrounding geographies and although Dashoguz is one of the targeted project's region, none of the demonstration activities come near this site. However, there may be other culturally significant sites that the project could inadvertently impact. This risk will be monitored attentively, especially because the government has proposed other sites to be included in the List of the World Heritage, and there are two PAs under the project's scope, featuring among them, namely Repetek Biosphere Reserve and Amudarya Nature Reserve.</p>	<p>related constructions, including excavations, movement of earth or other changes to the physical environment, and that these procedures will include notification of relevant authorities. The mitigation of any potential risk will involve consultation with local authorities and stakeholders.</p>
<p>Risk 15 There is a risk that the marginalized and vulnerable groups/ farmers cannot access agricultural extension services strengthened by the project's activities and/or are exclude</p>	<p>I=3 L=3</p>	<p>Moderate</p>	<p>The project beneficiaries are small and medium size private farmers and farming enterprises. One of the project's activity is aimed at making agricultural extension services and resilience advice more accessible to farmers (Act 3.2.1). There is a risk that marginalized and vulnerable</p>	<p>The risk management and mitigation measures are included in the project design.</p> <p>(i)For example the project includes partnerships with other initiatives (e.g. Adaptation Fund Project) and cooperation with the Union of Industrialists and Entrepreneurs, in order to strengthen extension service providers (Act 3.1.2). The AF Project builds on</p>

<p>from benefiting from access to technical knowledge</p> <p><i>SES Principle 2 Human Rights, P3</i></p> <p><i>SES Principle 2 Human Rights P5</i></p> <p><i>SESP Principle 2 Human Rights, P6</i></p> <p><i>SES Principle 3, Gender, P10</i></p> <p><i>Principle 5, Accountability, P14</i></p>			<p>groups cannot access extension services or are excluded from the direct project support through Outputs 3.2 and 3.3. This risk is preventatively assessed moderate as access to knowledge within the framework of this project that promotes new innovative practices is deemed essential to achieving the intended outcomes and there is a risk that the vulnerable communities representatives, may not even hear about or be informed about the existence of these services and/or not be able to access due to remoteness of their location.</p>	<p>the process of vulnerability screening for better targeting the agricultural extension service providers while using technology such as mobile extension services, and as such, expanding the network of accessible demonstration plots for climate resilient technologies and on-farm consultations.</p> <p>(ii) In addition, this GEF project will implement ample awareness raising activities (Act 3.1.2) in order to reach out to all farmers and especially those located in remote areas and will strengthen the government's extension services in the targeted regions.</p> <p>(iii) The project's support envisages targeted radio programmes for farmers, including a dedicated segment for women farmers. These tailored radio programmes will test the opportunity and feasibility of setting up radio extension services to reach out to remote locations, and will include targeted programmes, designed based on farmers' needs. The project will work with a PR media company in order to implement these activities. The TORs for this assignment will include specific tasks to mitigate these risks i.e. carry out research and consultations with the representatives of vulnerable groups or remote communities in order to reflect their needs in the design of the awareness campaign and bespoke radio extension services.</p>
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QUESTION 4: What is the overall project risk categorization?		
Low Risk	<input type="checkbox"/>	
Moderate Risk	<input checked="" type="checkbox"/>	
Substantial Risk	<input type="checkbox"/>	
High Risk	<input type="checkbox"/>	

QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are triggered? (check all that apply)				
Question only required for Moderate, Substantial and High Risk projects				
Is assessment required? (check if "yes")	x			Status? (completed, planned)
if yes, indicate overall type and status		X	Targeted assessment(s)	Completed during PPG: gender analysis, stakeholder analysis
		x	SESA (Strategic Environmental and Social Assessment)	Planned during implementation
Are management plans required? (check if "yes")	X			
if yes, indicate overall type		X	Targeted management plans (e.g. Gender Action Plan, Emergency Response Plan, Waste Management Plan, others)	Completed during PPG: Gender Action Plan, Stakeholder Engagement Plan Planned during implementation: Process Framework, Livelihood Action Plan (if needed)
		x	ESMF (Environmental and Social Management Framework)	Completed during PPG An ESMF will follow the SESA (during implementation) as needed.
Based on identified risks, which Principles/Project-level Standards triggered?			Comments (not required)	

	Overarching Principle: Leave No One Behind		
	Human Rights	X	
	Gender Equality and Women's Empowerment	X	
	Accountability	X	
	1. Biodiversity Conservation and Sustainable Natural Resource Management	X	
	2. Climate Change and Disaster Risks	X	
	3. Community Health, Safety and Security	X	
	4. Cultural Heritage	X	
	5. Displacement and Resettlement	X	
	6. Indigenous Peoples	<input type="checkbox"/>	
	7. Labour and Working Conditions	X	
	8. Pollution Prevention and Resource Efficiency	X	

Final Sign Off

Final Screening at the design-stage is not complete until the following signatures are included

Signature	Date	Description
QA Assessor		UNDP staff member responsible for the project, typically a UNDP Programme Officer. Final signature confirms they have "checked" to ensure that the SESP is adequately conducted.
QA Approver		UNDP senior manager, typically the UNDP Deputy Country Director (DCD), Country Director (CD), Deputy Resident Representative (DRR), or Resident Representative (RR). The QA Approver cannot also be the QA Assessor. Final signature confirms they have "cleared" the SESP prior to submittal to the PAC.

PAC Chair		UNDP chair of the PAC. In some cases PAC Chair may also be the QA Approver. Final signature confirms that the SESP was considered as part of the project appraisal and considered in recommendations of the PAC.
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SESP Attachment 1. Social and Environmental Risk Screening Checklist

Checklist Potential Social and Environmental Risks		
INSTRUCTIONS: The risk screening checklist will assist in answering Questions 2-6 of the Screening Template. Answers to the checklist questions help to (1) identify potential risks, (2) determine the overall risk categorization of the project, and (3) determine required level of assessment and management measures. Refer to the SES toolkit for further guidance on addressing screening questions.		
Overarching Principle: Leave No One Behind		Answer (Yes/No)
Human Rights		
P.1	Have local communities or individuals raised human rights concerns regarding the project (e.g. during the stakeholder engagement process, grievance processes, public statements)?	No
P.2	Is there a risk that duty-bearers (e.g. government agencies) do not have the capacity to meet their obligations in the project?	Yes
P.3	Is there a risk that rights-holders (e.g. project-affected persons) do not have the capacity to claim their rights?	Yes
<i>Would the project potentially involve or lead to:</i>		
P.4	adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalized groups?	No
P.5	inequitable or discriminatory impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups, including persons with disabilities? ⁵⁸	Yes
P.6	restrictions in availability, quality of and/or access to resources or basic services, in particular to marginalized individuals or groups, including persons with disabilities?	Yes
P.7	exacerbation of conflicts among and/or the risk of violence to project-affected communities and individuals?	Yes
Gender Equality and Women’s Empowerment		
P.8	Have women’s groups/leaders raised gender equality concerns regarding the project, (e.g. during the stakeholder engagement process, grievance processes, public statements)?	No
<i>Would the project potentially involve or lead to:</i>		
P.9	adverse impacts on gender equality and/or the situation of women and girls?	No
P.10	reproducing discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits?	Yes
P.11	limitations on women’s ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? <i>For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well being</i>	Yes
P.12	exacerbation of risks of gender-based violence? <i>For example, through the influx of workers to a community, changes in community and household power dynamics, increased exposure to unsafe public places and/or transport, etc.</i>	No

⁵⁸ Prohibited grounds of discrimination include race, ethnicity, sex, age, language, disability, sexual orientation, gender identity, religion, political or other opinion, national or social or geographical origin, property, birth or other status including as an indigenous person or as a member of a minority. References to “women and men” or similar is understood to include women and men, boys and girls, and other groups discriminated against based on their gender identities, such as transgender and transsexual people.

Sustainability and Resilience: Screening questions regarding risks associated with sustainability and resilience are encompassed by the Standard-specific questions below	
Accountability	
<i>Would the project potentially involve or lead to:</i>	
P.13 exclusion of any potentially affected stakeholders, in particular marginalized groups and excluded individuals (including persons with disabilities), from fully participating in decisions that may affect them?	Yes
P.14 grievances or objections from potentially affected stakeholders?	Yes
P.15 risks of retaliation or reprisals against stakeholders who express concerns or grievances, or who seek to participate in or to obtain information on the project?	No
Project-Level Standards	
Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management	
<i>Would the project potentially involve or lead to:</i>	
1.1 adverse impacts to habitats (e.g. modified, natural, and critical habitats) and/or ecosystems and ecosystem services? <i>For example, through habitat loss, conversion or degradation, fragmentation, hydrological changes</i>	Yes
1.2 activities within or adjacent to critical habitats and/or environmentally sensitive areas, including (but not limited to) legally protected areas (e.g. nature reserve, national park), areas proposed for protection, or recognized as such by authoritative sources and/or indigenous peoples or local communities?	Yes
1.3 changes to the use of lands and resources that may have adverse impacts on habitats, ecosystems, and/or livelihoods? (Note: if restrictions and/or limitations of access to lands would apply, refer to Standard 5)	No
1.4 risks to endangered species (e.g. reduction, encroachment on habitat)?	No
1.5 exacerbation of illegal wildlife trade?	No
1.6 introduction of invasive alien species?	No
1.7 adverse impacts on soils?	Yes
1.8 harvesting of natural forests, plantation development, or reforestation?	Yes
1.9 significant agricultural production?	No
1.10 animal husbandry or harvesting of fish populations or other aquatic species?	No
1.11 significant extraction, diversion or containment of surface or ground water? <i>For example, construction of dams, reservoirs, river basin developments, groundwater extraction</i>	Yes
1.12 handling or utilization of genetically modified organisms/living modified organisms? ⁵⁹	No
1.13 utilization of genetic resources? (e.g. collection and/or harvesting, commercial development) ⁶⁰	No
1.14 adverse transboundary or global environmental concerns?	No

⁵⁹ See the [Convention on Biological Diversity](#) and its [Cartagena Protocol on Biosafety](#).

⁶⁰ See the [Convention on Biological Diversity](#) and its [Nagoya Protocol](#) on access and benefit sharing from use of genetic resources.

Standard 2: Climate Change and Disaster Risks		
<i>Would the project potentially involve or lead to:</i>		
2.1	areas subject to hazards such as earthquakes, floods, landslides, severe winds, storm surges, tsunami or volcanic eruptions?	No
2.2	outputs and outcomes sensitive or vulnerable to potential impacts of climate change or disasters? <i>For example, through increased precipitation, drought, temperature, salinity, extreme events, earthquakes</i>	Yes
2.3	increases in vulnerability to climate change impacts or disaster risks now or in the future (also known as maladaptive or negative coping practices)? <i>For example, changes to land use planning may encourage further development of floodplains, potentially increasing the population's vulnerability to climate change, specifically flooding</i>	No
2.4	increases of greenhouse gas emissions, black carbon emissions or other drivers of climate change?	Yes
Standard 3: Community Health, Safety and Security		
<i>Would the project potentially involve or lead to:</i>		
3.1	construction and/or infrastructure development (e.g. roads, buildings, dams)? (Note: the GEF does not finance projects that would involve the construction or rehabilitation of large or complex dams)	No
3.2	air pollution, noise, vibration, traffic, injuries, physical hazards, poor surface water quality due to runoff, erosion, sanitation?	No
3.3	harm or losses due to failure of structural elements of the project (e.g. collapse of buildings or infrastructure)?	Yes
3.4	risks of water-borne or other vector-borne diseases (e.g. temporary breeding habitats), communicable and noncommunicable diseases, nutritional disorders, mental health?	Yes
3.5	transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g. explosives, fuel and other chemicals during construction and operation)?	No
3.6	adverse impacts on ecosystems and ecosystem services relevant to communities' health (e.g. food, surface water purification, natural buffers from flooding)?	Yes
3.7	influx of project workers to project areas?	No
3.8	engagement of security personnel to protect facilities and property or to support project activities?	No
Standard 4: Cultural Heritage		
<i>Would the project potentially involve or lead to:</i>		
4.1	activities adjacent to or within a Cultural Heritage site?	Yes
4.2	significant excavations, demolitions, movement of earth, flooding or other environmental changes?	Yes
4.3	adverse impacts to sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g. knowledge, innovations, practices)? (Note: projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts)	No
4.4	alterations to landscapes and natural features with cultural significance?	No

4.5	utilization of tangible and/or intangible forms (e.g. practices, traditional knowledge) of Cultural Heritage for commercial or other purposes?	No
Standard 5: Displacement and Resettlement		
<i>Would the project potentially involve or lead to:</i>		
5.1	temporary or permanent and full or partial physical displacement (including people without legally recognizable claims to land)?	No
5.2	economic displacement (e.g. loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?	Yes
5.3	risk of forced evictions? ⁶¹	
5.4	impacts on or changes to land tenure arrangements and/or community based property rights/customary rights to land, territories and/or resources?	Yes
Standard 6: Indigenous Peoples		
<i>Would the project potentially involve or lead to:</i>		
6.1	areas where indigenous peoples are present (including project area of influence)?	No
6.2	activities located on lands and territories claimed by indigenous peoples?	No
6.3	impacts (positive or negative) to the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples (regardless of whether indigenous peoples possess the legal titles to such areas, whether the project is located within or outside of the lands and territories inhabited by the affected peoples, or whether the indigenous peoples are recognized as indigenous peoples by the country in question)? <i>If the answer to screening question 6.3 is “yes”, then the potential risk impacts are considered significant and the project would be categorized as either Substantial Risk or High Risk</i>	No
6.4	the absence of culturally appropriate consultations carried out with the objective of achieving FPIC on matters that may affect the rights and interests, lands, resources, territories and traditional livelihoods of the indigenous peoples concerned?	No
6.5	the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	No
6.6	forced eviction or the whole or partial physical or economic displacement of indigenous peoples, including through access restrictions to lands, territories, and resources? <i>Consider, and where appropriate ensure, consistency with the answers under Standard 5 above</i>	No
6.7	adverse impacts on the development priorities of indigenous peoples as defined by them?	No
6.8	risks to the physical and cultural survival of indigenous peoples?	No
6.9	impacts on the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices? <i>Consider, and where appropriate ensure, consistency with the answers under Standard 4 above.</i>	No
Standard 7: Labour and Working Conditions		
<i>Would the project potentially involve or lead to: (note: applies to project and contractor workers)</i>		

⁶¹ Forced eviction is defined here as the permanent or temporary removal against their will of individuals, families or communities from the homes and/or land which they occupy, without the provision of, and access to, appropriate forms of legal or other protection. Forced evictions constitute gross violations of a range of internationally recognized human rights.

7.1	working conditions that do not meet national labour laws and international commitments?	Yes
7.2	working conditions that may deny freedom of association and collective bargaining?	No
7.3	use of child labour?	Yes
7.4	use of forced labour?	No
7.5	discriminatory working conditions and/or lack of equal opportunity?	No
7.6	occupational health and safety risks due to physical, chemical, biological and psychosocial hazards (including violence and harassment) throughout the project life-cycle?	No
Standard 8: Pollution Prevention and Resource Efficiency		
<i>Would the project potentially involve or lead to:</i>		
8.1	the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or transboundary impacts?	No
8.2	the generation of waste (both hazardous and non-hazardous)?	Yes
8.3	the manufacture, trade, release, and/or use of hazardous materials and/or chemicals?	No
8.4	the use of chemicals or materials subject to international bans or phase-outs? <i>For example, DDT, PCBs and other chemicals listed in international conventions such as the Montreal Protocol, Minamata Convention, Basel Convention, Rotterdam Convention, Stockholm Convention</i>	No
8.5	the application of pesticides that may have a negative effect on the environment or human health?	No
8.6	significant consumption of raw materials, energy, and/or water?	Yes

Annex 6: Targeted Landscape Profile

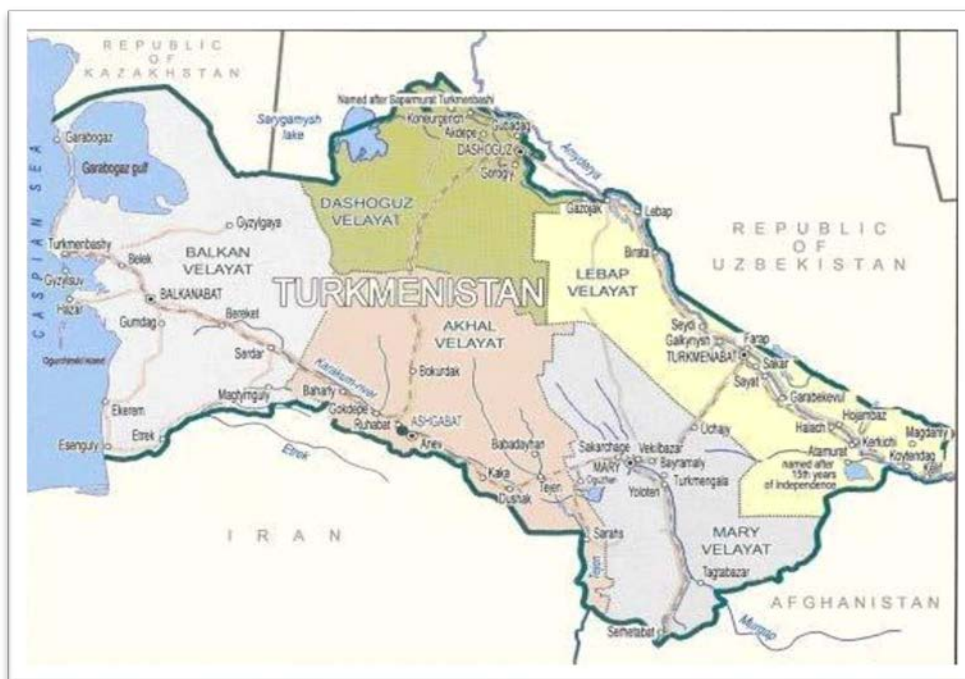
Fig. 1 Amudarya River Basin



The area targeted by the project roughly encompasses the lower Amu Darya river basin, feeding into the Aral Sea basin. This area is administratively covered by two of Turkmenistan’s five provinces (“velayats”): Dashoguz (along the lower Amu Darya) and Lebap (along the middle Amu Darya). These two provinces cover 16,716,000 ha (although some of this area is strictly Karakum desert area, and is beyond the scope of the proposed project). Within these two provinces approximately 1,200,000 ha have been identified as Key Biodiversity Areas (KBAs), which are primarily lakes, wetlands, rivers, and associated vegetated ecosystems, including floodplain (tugai) forests. Across the desert landscape areas of saxaul “forest” are also often areas of high desert biodiversity. Both forest types are within the scope of the project.

Of the remaining 15.5 million hectares, approximately 12.8 million ha is classified as “pasture”, including large areas of desert pasture. Turkmenistan is 80% flat desert and semi-desert plains lying between 0-200 m above sea level; the remaining 20% is occupied by mountains. The two provinces combined have a total population of roughly 2.7 – 3.0 million people, with a relatively low average population density of 5.5 ha per person; however, in reality the majority of the population is concentrated along the narrow strip of developed (and irrigated) territory flanking the southwestern bank of the Amu Darya river. This corridor is also where a majority of the landscape’s KBAs are found.

Fig. 2 Administrative territories of the provinces in Turkmenistan



A province or velayat is the largest administrative-territorial unit of Turkmenistan, headed by a governor (khyakim), appointed by the president. There are five provinces in the country: Akhal, Mary, Balkan, Lebap and Dashoguz. The province includes several districts (etrap). The two provinces (Dashoguz and Lebap) are included in the Aral Sea Basin and encompasses a variety of land uses and landscapes.

Dashoguz province: is located on the left bank of the Amudarya River, in the northern part of the Karakum desert. The main city of the region is Dashoguz. Most of the territory is occupied by the Karakum Desert. The province includes the Gaplanyr Reserve (with its two sanctuaries Sarygamish and Shasenem). Dashoguz province includes 9 cities, 9 districts (Akdepinsky, Boldumsazsky, Gubadag, S.Turkmenbashy, Gorogly and Rukhubelent), 1 city, 134 gengeshliks and 612 villages. Total population is 1409.4 thousand people, including 49.8% (701,881) men and 50.2% (707,519) women⁶².

The total area of the province occupies 15% of the total area of Turkmenistan, approximately 73.4 thousand km². The climate of the Dashoguz district is sharply continental, which leads to hot and dry summers and relatively warm winters. The average temperature in summer is + 28 ° C with an absolute maximum of 43-44 degrees, in winter -2.2 ° C is 6-8 degrees lower than in the southern regions of Turkmenistan. As most of its territory is covered by Karakum desert, the average annual precipitation is 84 - 98 mm, most fall out in winter and spring. Winds of the northern and northeastern points make up about 70% of all winds. The average wind speed is 3 - 5 meters per second. The main water source of the Dashoguz province is the Amu Darya River, which supplies water to the main inter-farm irrigation canals Shavat, Khanyap, Turkmenderya and Shasenem.

Dashoguz province accounts for 21.0% of the total population of Turkmenistan, out of which 62.6% live in rural areas. The economy of the province is based on the production of agricultural products and associated processing industries. According to official statistics, at the end of 2018, the region produced 6.7% of the total volume of agricultural products and 4.4% of the country's industrial products. In 2018, 6.1 per cent of the country's total investment (sixth place) was allocated to the development of the local economy, 67.3 per cent of which was used for the construction of non-production facilities. The processing industry is well developed in the region. The leading role belongs to the light industry 31.2% and the food industry 64.1%. Agricultural production in the Dashoguz province is traditional. In 2018, the region grew 230.2 thousand tons of raw cotton. The region is one of the main producers of rice in the country (21.9%), fruits and berries (40.7%), potatoes (31.8%) and melons (31.7%). One of the main areas of agriculture is animal husbandry. Dashoguz holds the first place in the country in terms of cattle breeding (43.6%) and milk production (40.8%), second in poultry (23.9%) and egg production (25.7%).

During the PPG phase, two districts (etrap) were selected, in which the project will demonstrate landscape scale integrated land use planning and sustainable water-land-biodiversity management. The selection has been done in consultation with local authorities and daikhan associations representatives in Dashoguz province: S. Turkmenbashy and Ruhubelent. These districts are encompassing various land use types, including Protected Areas and KBAs/IBAs, irrigated and non-irrigated arable land, desert ecosystems and lakes and wetlands or riparian ecosystems.

Turkmenbashi District (Etrap) is located in the northern part of the Dashoguz province, stretching on 19.1 km², representing approximately 26% of the total area of the province, including one city, 26 gengeshliks and 111 villages. Local agricultural economy features a rice processing plant, cereal storing facilities, cold storage for fish and fishery products related to Sarygamish Lake, a tomato processing plant, and a livestock farm and milk processing facility. The total arable land allotted to daikhan associations is 248,946 ha (2017 data).

Table 1: Turkmenbashi district- agriculture and population data

Total population	155 576
• Households	22929
• Women	78 233
• Men	77 343

Total area	1913892 ha
• Irrigated lands	77 032

⁶² Also, respectively: <https://www.science.gov.tm/turkmenistan/regions/> and the statistical yearbook of Turkmenistan 2018, State Committee of Turkmenistan on Statistics. Ashgabat, 2019, page 18

• Gardens and green houses	106
• Pasture land	1 452 909
• Forestry lands	109 610
• Degraded lands	5 600
• Other	274 235

During the PPG phase, the selection of the project's targeted/demonstration areas has been done upon consultations with the district's local authorities (khakimliks) and representatives of stakeholders and daikhan associations as a result the daikhan association Ak -Altyn has been preliminarily selected to participate into the project activities. Consultations and preliminary agreement with regard to participation in the project had been secured. However, local authorities' have advised the PPG team on the likelihood of an upcoming local re-organization and redistribution of land and potential merging of farms and land plots among different daikhan associations in all the districts. Therefore, during the inception phase the project will further validate the management/ownership of the selected demonstration areas and engage with the (potential) newly formed associations prior to starting the project activities.

Ruhubelent District (Etrap): is situated in the western part of the Dashoguz province, stretching on a total area of 14 km², approximately 23% of the total province and including 1 city, 15 gengeshliks and 42 villages. Local industry includes a bakery, a small brick factory, small scale rice milling and seed processors.

Agreements with daikhan association Ashyk Aydin has been preliminary selected based on consultations with local authorities (land management/ownership will be further validated during the inception phase).

Table 2: Ruhubelent district: agriculture and population data

Total population	23 224
• Households	4 260
• Women	12 013
• Men	11 211

Total area	1 691 330 ha
• Irrigated lands	62 293
• Gardens and green houses	209
• Pasture land	1 273 064
• Forestry lands	153 671
• Degraded lands	8 850
• Other	193 243

Lebap province: is located in the eastern part of the country, bordering Uzbekistan in the north and Afghanistan in the east. The climate is sharply continental. The province is rich in mineral resources. Agricultural activities are based on high intensity farming of cotton, grains, vegetables, vine and animal husbandry. The main crops grown are cotton, wheat, rice and vegetables and livestock farming is an important contributor to the economy. Lebap province includes three reserves: Repetek, Koytendag and Amudarya. The chemical and construction sectors of the local industry are well developed. The province produces electricity, liquid gas; cotton and knitted fabrics; dairy products, bakery products. The agriculture in the region is based on intensive cotton and wheat crops, vegetable, vine, livestock and poultry. The strategy for further economic development of the region is mostly focused on extraction of mineral resources and intensive agriculture (cotton, wheat and rice), all of which have negative consequences on the environment, water and land resources and biodiversity. The population of Lebap velayat is 1,371.1 thousand people⁶³, including 49.9% (684,179) men and 50.1% (686,921) women⁶⁴.

⁶³ <https://www.science.gov.tm/turkmenistan/regions/>

⁶⁴ Statistical Yearbook of Turkmenistan, 2018. State Committee of Turkmenistan on Statistics. Ashgabat, 2019, page 18

Table 3: Distribution of land use type in the two target districts

LAND DISTRIBUTION BY PURPOSE (ha)	Deinau etrap	Darganata etrap
Agricultural land - total:	1315325	1698200
<i>Including:</i>		
- Irrigated arable land	29489	6952
- Perennial plantings	743	125
- Fallows	388	
- Pastures	1,134,748	1,455,991
- Personal subsidiary plots	4260	1313
- Land allocated for gardening	14	
- Irrigated forest areas	102	30
Specially protected natural areas (SPA)	1198	2059
Lands of State Nature Reserve	361950	1075610
Lands of forest fund	78094	44109
Lands of water fund	937	81577
Other lands	146018	233809

Deinau district: is stretching over approximately 1.31 million ha, approximately 14% of the total province and including 5 towns and cities, 14 gengeshliks and 61 villages. Local industry includes an oil refinery, a cotton ginnery plant, small scale bricks factory, etc. The district territories includes Amudarya State Nature Reserve, whose borders, in the absence of buffer areas, are threatened by agricultural practices such as overgrazing and intensive irrigation. Livestock is an important contributor to local livelihoods.

Table 4: Population- Deinau district

Total population	140239
• Households	30015
• Women	71651
• Men	68588

Upon consultations with local stakeholders, several target areas were selected and agreements preliminary secured with the following daikhan associations: Gabakly and Tase-Yurt (the project will further validate and re-enforce agreements during inception phase).

Darganata district: covers approximately 1.7 million ha, approximately 18% of the total province and including 3 towns and cities, 5 gengeshliks and 7 villages. Local industry includes a gas extraction enterprise, cereal storing facilities, small scale handicrafts, etc. The district includes Gorelde area of Amudarya State Nature Reserve while hosting other biodiversity *hot spots* such as Pitnyak uplands and Soltanjar Duyeboyun, threatened by intensive agriculture practices. The consultations with local authorities and representatives of daikhan associations have helped identified target areas in the buffer and production zones, and agreements with the Lebap daikhan association (which encompasses approximately 5 000 people and several villages) who has expressed willingness to participate into the project activities and promote sustainable land management. The partnerships and agreements will be further validated at the inception phase.

Table 5: Population in Darganata district

Total population	55627
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• Households	9765
• Women	16102 (age 18-57)
• Men	16766 (age 18-62)

Table 6: Preliminarily recommended pilot sites – data on land use categories ⁶⁵

Velayat (province)	Etrap (district)	Name of DAYKHAN ASSOCIATION (DA)	DA area (ha)	Administrative and territorial affiliation of DA (name of Gengeshlik, settlements)	Number of households in DA	Irrigated (arable) lands (ha)	Fallows (ha)	Pastures (ha)	Lands of water fund (ha)	Lands of forest fund (ha)
Dashoguz	S.Turkmenbashi	«Ak Altyn»	15345	Sarygamysh Gengeshlik (villages of Sarygamysh, Atgyrylan, Gyzyl Bash, Selmeli Kol)	1282	4491	240	6560	1092	2
	Ruhubelent	«Ashyk Aidyn»	78799	Ashyk Aydin Gengeshlik (villages of Ashyk Aydin, Akar Yap, Kuvvatli)	162	7361	969	49698	-	-
Lebap	Deinau	«Kabakly»	89710	Kabakly Gengeshlik (villages: Kabakly, Uchkersen, Khalkabat)	695	1207	-	86812	339	-
		«Tyaze Yurt»	1697	Gengeshlik Isbaz (villages: Isbaz, Tyaze Yurt)	581	1070	-	720	66	-
	Darganata	«Lebap»	264650	Lebap Gengeshlik (villages: Kranch, Sakar Aryk, Tyaze Oba, Bash Saka)	1307	1433	-	245120	388	12

A. Irrigated areas

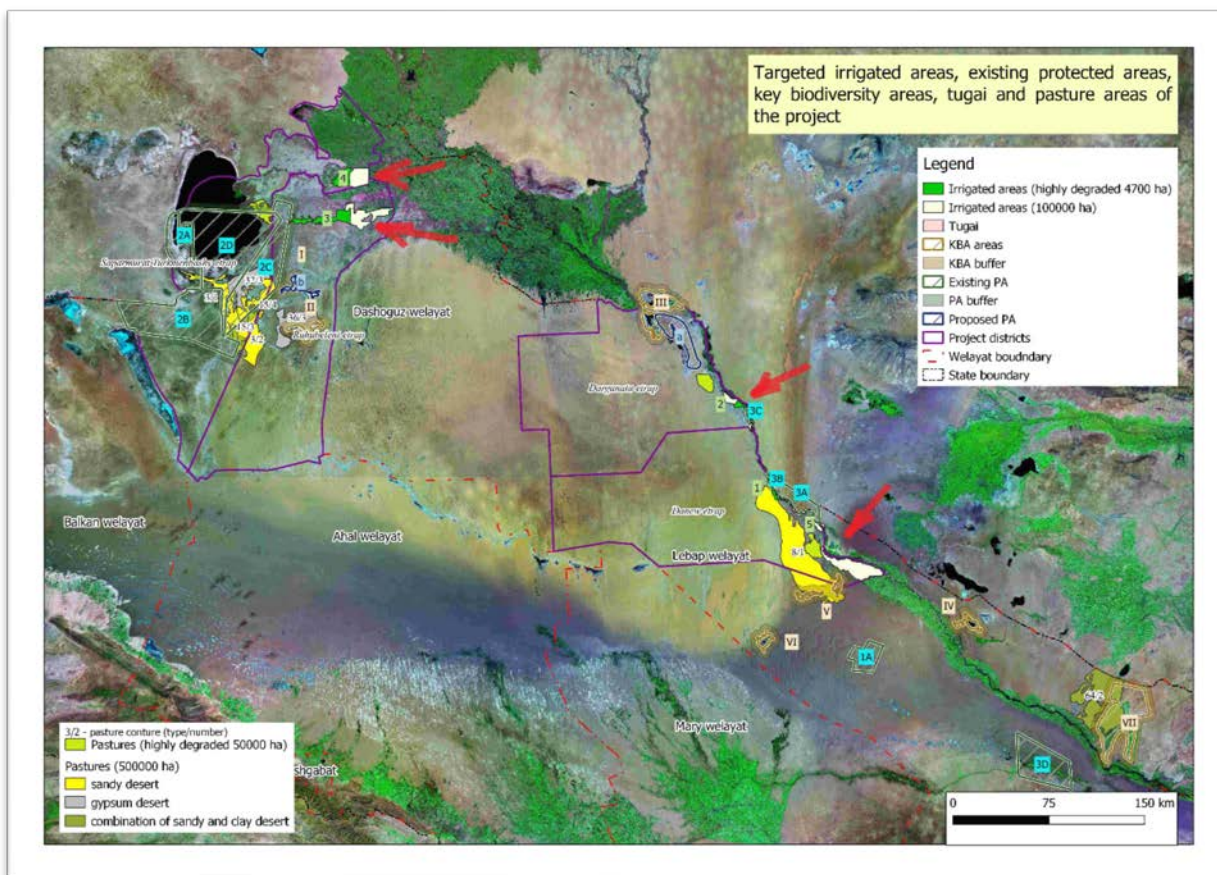
The territories of Lebap district (as part of Bukhara oasis) and Dashoguz district (as part of Khorezm oasis) have a long history of using water for irrigation, stretching the river basin, during soviet times, beyond its natural hydrographic boundaries. The existing irrigation practices are characterized by significant water consumption, large water losses (40-50%) being the main drivers of land salinization. Analysis of volumes of water diverted versus used water, demonstrates that water losses at farm level irrigation system (third level canals) are substantially higher than in the main irrigation canals (first level canals). Surface irrigation (furrow, strip and flood irrigation) is widely used and irrigation pumps are old (obsolete) at farm level and there is little hope that the practice will change

⁶⁵ (Sites were selected at PPG stage, however further validation and site identification will be conducted at the inception phase, due to the re-organization of the daikhan associations in the targeted provinces, expected to continue during 2021-2022)

in the coming decades. As a result, both districts generate significant amounts of wastewater with 1,541,100 thousand m³ generated in Dashoguz district and 1,788,770 thousand m³ in Lebap district (2010). In the Aral region there is an environmental degradation observed due to the negative impact of the drainage water discharge from the territory of Turkmenistan and Uzbekistan.

Large volumes of drainage waters are formed, accumulated in oases or diverted to the Amu Darya River. Within the territory of both districts (Dashoguz and Lebap) and especially in Dashoguz, the return waters often do not have access to drainage water intakes; hence, they accumulate and flood agricultural lands (and nearby settlements) exacerbating land salinization and degradation. In general, almost all discharged and un-treated water flows into water bodies, irrigation canals, natural depressions, causing deterioration of the water quality of these water bodies and the environment as a whole. As a result, artificial lakes were formed in the Karakum Desert. Before the inception of the first construction stage of the Turkmen Lake, the return water accumulated in desert lakes and natural depressions. Today, most of this water is discharged through a network of supply canals into Turkmen Lake (a comprehensive detailed explanation of the irrigation system, norms and water use patterns, is provided for further reference in the Water Management report developed during the PPG phase).

Fig. 3 Selected irrigated areas in the targeted districts



The project will demonstrate sustainable water management on 100,000 ha, which will be put under Sustainable Water Management Plans (Output 1.3). Out of this area, approximately 10,000 ha will be selected to demonstrate crop resilience and improved farming. An additional 4,700 ha of degraded arable land are preliminarily selected in order to demonstrate arable land restoration methods (Output 1.2).

The selection of these areas at the PPG stage took into consideration the local authorities' recommendations, willingness of daikhan associations to participate into the project activities; location of the irrigated areas in the surrounding geographies of the Protected Areas (PAs) or KBAs/IBAs and degrees of land degradation. The target areas and partnerships with respective entities (e.g. daikhan associations) will be further validated during the inception phase. Adjustments will be made in order to accommodate any changes of the selected areas' management, due to the upcoming daikhan associations reorganizations in Lebap and Dashoguz.

During the PPG phase, the targeted irrigated areas have been selected in consultation with local authorities (khakimliks) and daikhan associations (as per Table 6) are distributed as follows:

- In Lebap province, in Deinau district, there are 43,711.55 ha irrigated area selected around KBA/IBA Ketteshor-Ramankol.
- In Lebap province, in Darganata district, the total irrigated areas are 6,436.89 ha (as the irrigation system is poorly developed and irrigated areas are covering only 8,200 ha); the sites are near Amudarya State Nature Reserve (Gorelde area).
- In Dashoguz province, in Turkmenbashi district, the irrigated areas selected cover 20,324.27 ha; in the proximity of the borders of Sarygamish and Shasenem Sanctuaries KBAs/IBAs.
- In Dashoguz province, in Ruhubelent district, the irrigated areas selected cover 29,905.34 ha is in the production zones around Sarygamish Sanctuary KBA/IBA.

The project will work with a number of local partners: local authorities, of the selected districts, Production Department (PO) “Berzenuwaryshulgamy” managing the Berzen irrigation system. The project will also work with the production system managing the “Kranch Han yap” irrigation system (Lebap province); production system managing the selected irrigation system in Dashoguz (e.g. Ak altyn nowhanasi; Diyarbekir s.a.;) water users (WUAs), private entrepreneurs, farmers and daikhan associations, local branches of the Ministry of Agriculture and Environmental Protection, State Committee for Water Resources and IFAs.

B. Pasture and forest areas

The project will promote and demonstrate biodiversity friendly agriculture practices on approximately 500,000 ha pastureland and restoration or reducing degradation on approximately 50,000 ha highly degraded pastures (Output 1.4); and restoration of 5000 ha saxaul and 300 ha tugai forests (Output 1.2). These areas are located around PAs and KBAs/IBAs (partly on the territory of the consulted daikhan associations- as per Table 6) where the project will demonstrate biodiversity friendly agricultural practices.

At the PPG stage the consultations with local authorities and other stakeholders indicated the suitable demonstration sites considering the type of pastures and vulnerability in terms of land degradation. The selected sites will be validated during the project’s inception phase, in order to adjust to the upcoming re-organization of daikhan association in Lebap and Dashoguz and re-enforce partnerships.

Brief description of surveyed area in Lebap province

Lebap province is located on both sides of the Amu Darya River, to which the Karakum Desert connects on the left, and the Karabil Upland in the north. Kyzylkum desert is at the northwest and Sundukli sands located in the center. There is little rainfall in the desert - about 100 mm per year and the irrigation system around Amudarya River is extensive. The productivity of the pastures in the northeastern part of the province is not significantly affected by the arid climatic conditions, diminishing the use of the remote pastures for cattle breeding. In the targeted Lebap province there are mostly sandy desert pastures and a combination with sandy and clay desert areas, with kandim (*Calligonum sp.*) and downy brome (*Bromus tectorum*) on shallow sands. In Lebap there are approximately 2.2 million small cattle (sheep and goats) with the number exceeding the ecological carrying capacity several times especially around wells and near settlements.

In the selected pasture areas, 49 species of pasture plants grow, which are represented by various life forms mentioned in below table:

Table 7: Type of pasture vegetation in targeted areas

	Type of pasture plant	Number of species (life form)	% of dominate pasture plans
1	Woody (arboreal)	5	70
2	Semi-woody (semi-arboreal)	5	60
3	Herbaceous	39	30

Although the herbaceous vegetation dominates in terms of the number of species, in fact, only 30% of them represent the vegetation/grass cover of pastures, in other words, only about 15% of all available herbaceous species represent the fauna of pastures in the targeted project regions. Regarding arboreal and semi-arboreal species, they represent for 70% and 60% of the vegetation cover, respectively.

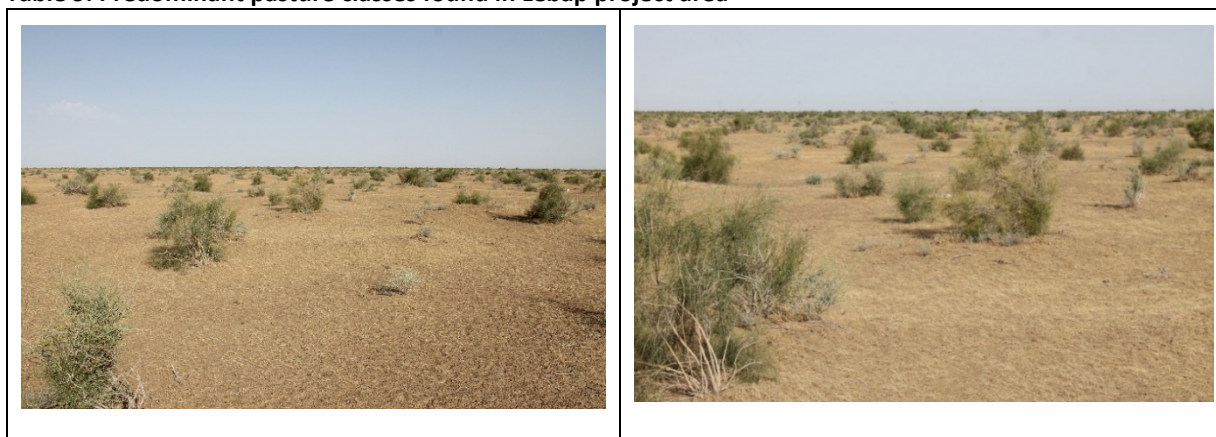
Table 8: The distribution of pasture areas by pasture class and pasture productivity in Lebap province

Grassland classes	Pastureland		Average annual feed supply
	hectare	in %	centner/ha
Sandy desert pastures	5254277,9	67,3%	0,95
Gypsum desert pastures	93018,3	1,2%	0,86

Clay desert pastures	94680,4	1,2%	0,99
Piedmont (loess) pastures	374493,2	4,8%	2,09
Combination of sandy and gypsum desert pastures	277591,5	3,6%	0.69
Combination of pastures of sandy and clay desert	920056,0	11,8%	1.47
Combination of sandy desert pastures and loess	458518,6	5,9%	1.80
River valleys	68167,0	0,9%	0.82
Pastures of the Lower mountain belt	96751,7	1,2%	3.00
Pastures of the Middle mountain belt	81072,2	1,0%	3.65
Pastures of Upper mountain belt	42155,6	0,5%	3.94
Mountain river valleys	44475,8	0,6%	
Total	7 805 258,2	100%	

Most of the pastures are sandy desert type, represented by hilly sands⁶⁶ and a significant area is covered by a type of mix sandy-clay desert pasture. The total number of small cattle (sheep and goats) grazing in these areas reaches approximately 2.2 million heads, exceeding by manifolds the carrying capacity of these fragile desert pastures. The pictures below represent a typical sandy pasture (left) with associations of *Calligonum setozum* and *Bromus tectorum* on shallow sands and a desert-clay pasture (right).

Table 9. Predominant pasture classes found in Lebap project area



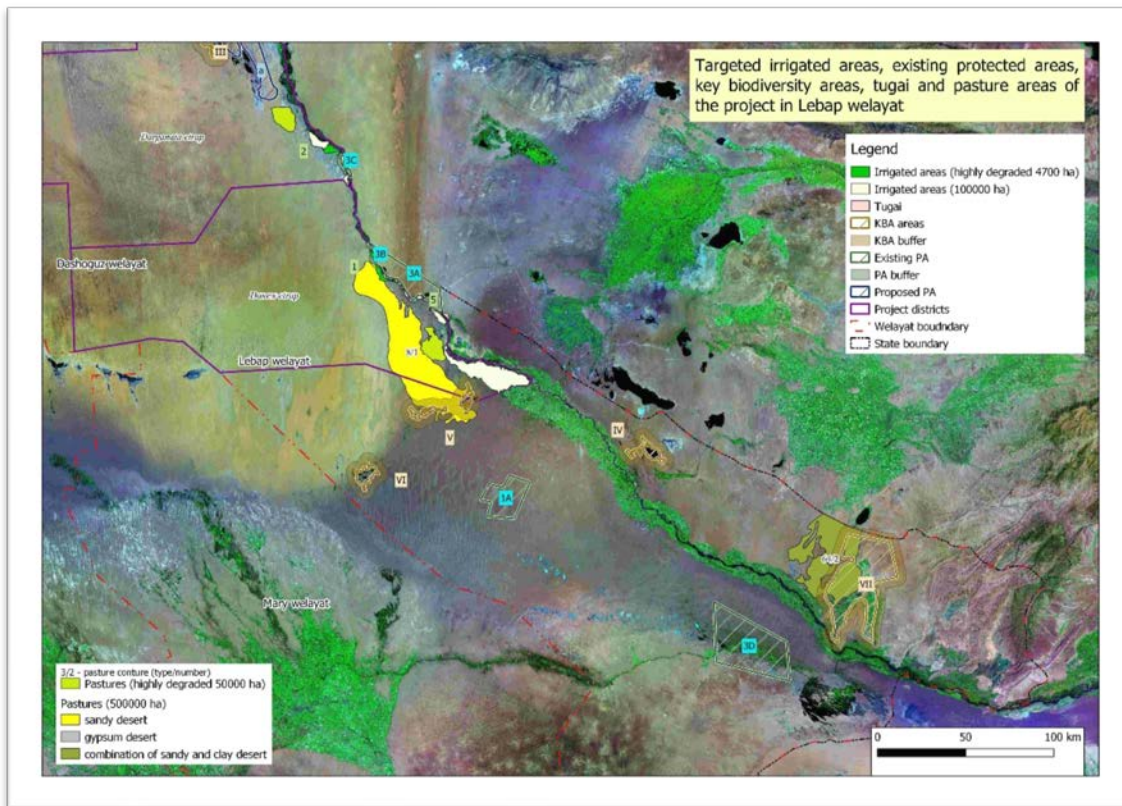
The targeted highly degraded pasture areas that are selected (recommended) during PPG stage, are represented by plots situated around PAs or KBAs/IBAs. In Lebap province, in Darganata district, the selected degraded pastures (target 50,000 ha in both provinces) cover an area of 13,822 hectares south from the Pytniak upland and Soltanjar-Duyeboyun KBA/IBA and in the surrounding of Amudarya State reserve (Gorelde KBA/IBA). The territory is a complex of plants and animals inhabiting fixed sands and sandy desert and overgrazing and irrigation agriculture around settlements is contributing to land degradation and disturbances of key habitats and Red Book species. In Deinau etrap the degraded pastures cover an area of 16,315 hectares, north from Kettenshor Romankol KBA/IBA and Tallymerjen KBA/IBA. In total the province selected pasture areas are approximately 30,137 hectares of sandy and clay desert pastures. Tallymerjen is among the most threatened KBA/IBA by anthropogenic activities (from overgrazing to illegal hunting to construction of roads and irrigation).

The rest of the pasture areas selected for Lebap province (target 500,000 ha for both provinces) are located as follows: In Lebap province, in Deinau district, the pasture area of 48,170 hectares on Gabakly farm, adjacent to Amudarya State Nature Reserve Nargiz and Gabakly areas; in Dovletli district a pasture area of 176,436 hectares was selected partially overlapping the KBA/INA Kettenshor -Ramankol and in Khojambaz district a pasture area of 74,786 hectares was selected. These areas are located in the surroundings of KBAs/IBAs Soltandag-Gyzylburun and Eradjy and in the buffer areas of Repetek State Nature Reserve. The Repetek State Nature Reserve zoning system is not identified and delineated on the ground; therefore unsustainable agricultural practices are continuously affecting biodiversity as well as the ecological integrity of the KBAs/IBAs in these areas. Overgrazing in particular. Around Repetek and in the territories of the KBAs/IBAs small livestock and camels are kept almost all year round on distant desert sandy pastures. The

⁶⁶ Sands that accumulate in the form of round or oblong mounds near shrubs; hilly sands are particularly spread in the deserts of Central Asia

targeted pasture areas in Lebap province will cover approximately 299,392 hectares, of which 181,669 hectares are pastures of sandy desert on ridge-hilly desert-sandy soils, the remaining 117,723 hectares are a combination of pastures of sandy and clay deserts.

Fig. 4 Selected project areas in Lebap province



The forest resources of the Lebap welayat are represented by the riparian tugai type of forest. The vegetation cover of tugai is formed by arboreal and herbaceous plant species of river valleys with close occurrence of fresh groundwater. The tugai flora of the floodplain of the Amu Darya River has about 100 species belonging to 69 genera and 33 families.

The project will demonstrate sustainable forest management on 5000 ha of saxaul forest and 300 ha of tugai.

The tugai forests in the project area are located on the territory of the Amudarya State Natural Reserve and within the buffer zones, and most of the tugai territory is protected in accordance with the Protected Areas law. The lack of buffer areas delineation and lack of connectivity of tugai tickets (outside the borders of the reserve) renders the tugai vulnerable to anthropogenic pressure. The tugai ecosystem hosts wild ungulates (notably the red deer/ Bukhara deer *Cervus elaphus bactrianus*) and other species included in the Red Book of Turkmenistan, and represents a key habitat for wintering of the water birds, including migratory species. The tugai ecosystems are affected by deforestation and the reduction of Amudarya river water flow and seasonal flooding.

Fig. 5 Tugai areas on the project site



The white demarcation line marks the perimeter of the Amudarya State Nature Reserve and in green areas there are the tugai thickets: Sanrabat (590 ha), Diksuvlat (560 ha), Dashakhyr (590 ha) and Akrabat (770 ha). The project will strengthen the buffer zone delineation for the protection of these forest ecosystem and will implement afforestation works on 300 ha to ensure continuity of ecological corridors (Output 1.2) .

In addition, an area of 5,000 ha saxaul forest will be restored (Output 1.2) in both provinces. Based on PPG observations, the area recommended for selection in Lebap province, is an area of 1050 ha (small hilly sands) of degraded saxaul in Deinau district: location - north-west of Kattashore, project area Kattashor - Rakhmankol.

Brief description of the surveyed area in Dashoguz province

The Dashoguz province is the northernmost among all the provinces of Turkmenistan, hosting the Gaplanyr Reserve and many lakes and wetlands, the largest being Sarygamysh. The farming is based exclusively on the irrigation system. A significant network of irrigation canals is fed by water from the lower reaches of the Amu Darya River. The distribution of pasture areas by pasture class and pasture productivity (for base line) is represented below:

Table 10. Rangeland (pastureland) area in Dashoguz province

Grassland classes	Pastureland		Average annual feed supply
	hectare	in %	centner/ga
Sandy desert pastures	3084543,5	52,1%	0,82
Gypsum desert pastures	852561,6	14,4%	0,96
Clay desert pastures	353696,4	6,1%	2,06
Combination of sandy and gypsum desert pastures	1290975,1	21,8%	0,75
River valleys	250418,3	4,2%	2,79

Mountain river valleys	83656,1	1,4%	
Total	5 915 851,0	100%	

Pastures are mainly represented by ridge-hilly sands and takyr soil (table below/left picture). Most of the grazing area consist of sandy desert pastures and a combination of sandy and gypsum desert type. The carrying capacity of these pastures is exceeded and most of the accessible pastures are overgrazed. Number of small cattle (sheep and goats) reaches 2.9 million heads.

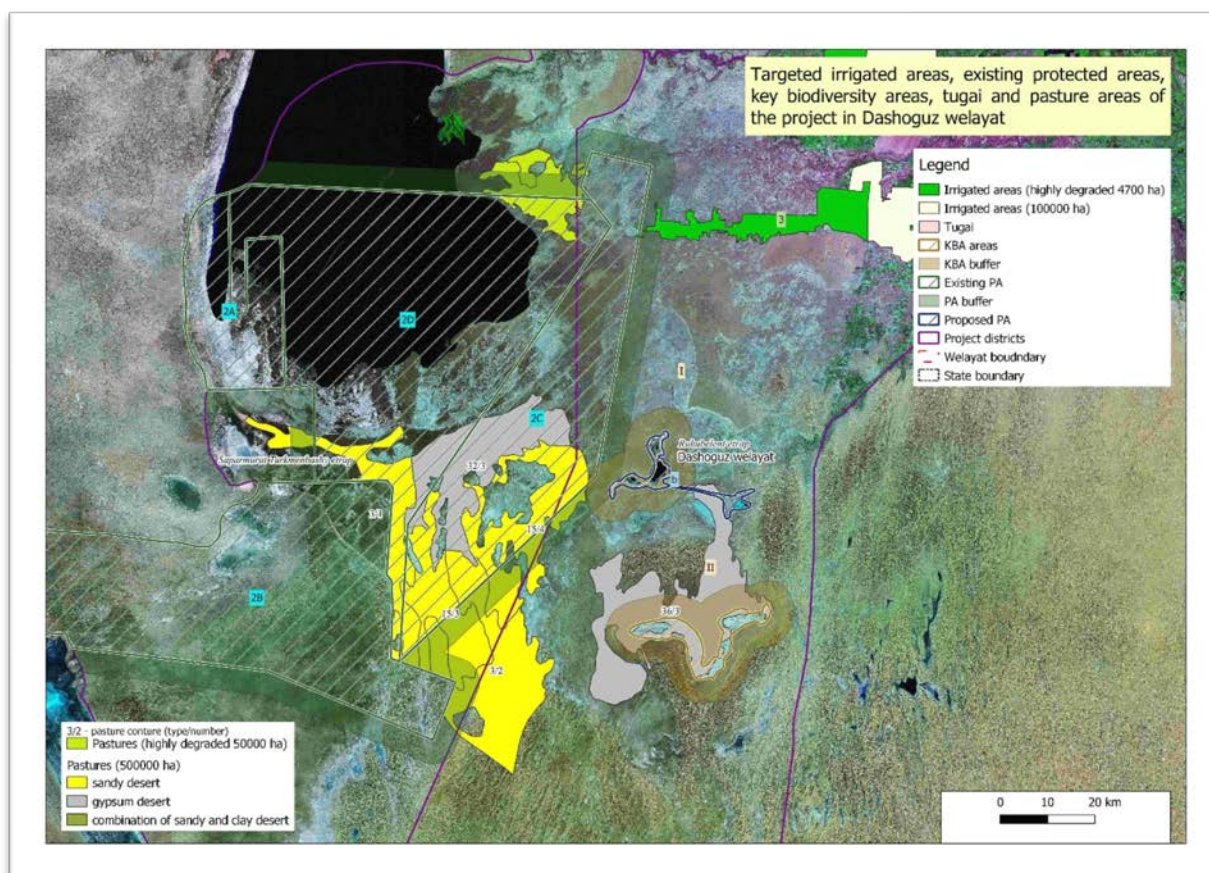
Table 11. Predominant pasture classes found in Dashoguz project area (sandy and sandy -gypsum pastures with white saxaul *Haloxylon persicum* (left) and Calligonum shrubs (*Calligonum setozum*) and *Artemisia kemrudica* (right))



At the PPG stage, the selected highly degraded pasture areas are represented by plots situated around PAs or KBAs/IBAs. The highly degraded pasture areas (target 50,000 ha in both provinces) in Dashoguz are selected preliminary in the following locations:

- In Dashoguz province, in Saparmurat Turkmenbashi district, the selected degraded pastures are covering a total area of 20,061 hectares, of which 3,092 hectares are pastures of the sandy desert; 231 hectares - gypsum desert pastures (around Akgaya KBA/IBA); 16,738 hectares - pastures of a combination of sandy and clay deserts (in and around Shasenem Sanctuary KBA/IBA and Gaplanyr State Nature Reserve (Gulantakyr area), and partially overlapping with Sarygamish Sanctuary (in the north). In Ruhubelent district, the degraded pastures are located around the same PAs and KBAs/IBAs, i.e. in the proximity of Gaplanyr State Nature Reserve Gulantakyr area, on a total area of 1,148 hectares, of which 594 hectares are pastures of the sandy desert; then, 554 ha - gypsum desert pastures around Akgaya KBA/IBA. In total the proposed targeted areas in Dashoguz province cover 21,209 hectares. The main agricultural activity is the distant pasture grazing, animal husbandry, although there is fishing in Sarygamish and hunting, bordering the Gaplanyr reserve.
- Regarding the selection of 500,000 ha of pasture areas in the buffer and productive zone around KBAs/IBAs and PAs, the proposed pasture areas in Dashoguz province are located as follows: In Saparmurat Turkmenbashi district, the pasture area selected covers 153,566 hectares. These areas are located in the buffer zone of Gaplanyr State Nature Reserve adjacent to Gulantakyr area and partly overlapping with Shasenem Sanctuary. In the sanctuaries there little or no regulations enforced, and usually natural resources (pastures, medicinal herbs etc) are over exploited. The project will work with local farmers, shepherds and private entrepreneurs and with the PA management staff. In Ruhubelent district the selected pasture area covers 103,566 hectares and are located in and around Shasenem Sanctuary, and around two KBAs Goyungyrlan/Zengibaba and Akjagaya. In Dashoguz province therefore, the overall targeted areas are approximately 257,132 hectares, of which 149,578 hectares are represented by pastures of sandy desert on ridge-hilly desert-sandy soils, the remaining 107,554 hectares are pastures of gypsum desert on gray-brown desert soils of the takyr plain

Fig.6 Selected project pasture areas in Dashoguz province



Forest resources:

The forest areas in Dashoguz province are mainly located in and around Gaplanyr Reserve. It is recommended that the project will target an area of 4,150 hectares of light-moderate degraded saxaul desert forest in Ruhubelent district, location - south of Zengibaba-Goyungirlan project area.

Forest areas are mainly represented by association of white saxaul but desertification and extensive firewood cutting (together with pasture overgrazing and year-round grazing) are leading to further desert forest ecosystem degradation and vulnerability to salinity and deflation.

The project will work with local nurseries and will promote agroforestry and creation of forest shelter belts in targeted areas. Creating desert forest shelter belts will improve microclimate and fight against desertification (recommended species withstanding salinization: poplars (*Populus sp.*), ash (*Fraxinus sp.*), acacia (*Acacia pseudoacacia*), mulberry (*Morus alba*), karagach (*Ulmus caprinifolia*) etc.

The restoration of the selected 50,000 ha of highly degraded pastures will be addressed in partnership with livestock farms and private entrepreneurs who will be incentivized away from unsustainable practices through grant support and technical assistance for mobilization of soft loans, development of bank applications and business plans. The project will further work with local authorities, forestry enterprises, hunting enterprises and daikhan associations on order to promote sustainable agricultural practices (e.g. use of distant pastures and rotational grazing) on the targeted 500,000 ha of pasture ecosystems.

C. Protected areas and key biodiversity areas KBAs/IBAs

The project will focus on two State Nature Reserves⁶⁷: (i) In Dashoguz province there is **Gaplanyr Reserve** (273,735 ha) and the associated wildlife sanctuaries: Sarygamish Sanctuary (541,466 ha) and Shasenem Sanctuary (109,002 ha); (ii) In Lebap province the project is focusing on **Amudarya State Nature Reserve** (48,351 ha) and associate wildlife sanctuary Kelif Sanctuary (103,000 ha).

⁶⁷ The PAs selected at PIF stage differ from the PAs that have ultimately remained under the project focus, and the justification is provided under

In addition, the project will assess the status a KBAs/IBAs in Amudarya River landscape and will forge agreements with local communities for promotion of sustainable agricultural practices around KBAs/IBAs, supporting on the same time the legal designation of 60,000 ha of KBAs/IBAs as Wildlife Sanctuary: **Pytniak Sanctuary**, will include Pytniak Hills and nearby lakes ecosystems (40,000 ha). In addition, preparatory assessments for the enhanced protection of other endangered KBAs/IBAs such as: **Zengibaba-Goyurlan** (combined- area of approximately 20,000 ha) and **Tallymerjen** (167,701 ha) will be implemented. The project will promote community-based biodiversity management at these sites and/or possibly designation of new additional areas as wildlife sanctuaries (this will be determined during the project implementation).

Gaplangyr State Nature Reserve:

Gaplangyr State nature reserve (273,735 ha) covers the southeastern remote areas of Ustyurt and most of the Gaplangyr plateau (bordering the Republic of Uzbekistan in the north). The reserve was established on 16 August 1979. The main goal is to preserve and increase the population of the Ustyurt mountain sheep (argali), kulan, gazelle, honey badger and the entire natural complex of the region. The reserve includes two sanctuaries - Sarykamys (541.466 ha) and Shasenem (109.002 ha). Gaplangyr nature reserve and its sanctuaries protect and restore the gene pool of flora (400 plant species) and fauna (vertebrate-298 species; insects not inventoried) of the region. The role of the reserve in preservation of endemic species is high (Eichwald sand acacia, Karelin sand acacia, pebbled spurge, Turkmen tulip, fine-headed cousinia and annual lipskiella). On the territory of Gaplangyr reserve, 4 species of plants listed in the Red Book of Turkmenistan are found: softcarp, Khiva thistle, Eichwald sand acacia and Turkestan asparagus. There are 213 bird species in the reserve and in its two sanctuaries. Of these, 58 species nests in desert areas and near water, the rest of the species are considered migratory and wintering. The Red Book of Turkmenistan includes 23 species (pink and curly pelicans, spoonbills, common flamingos, white-fronted goose, white-eyed diving duck, steppe kestrel, saker falcon, black vulture, etc.).

Amudarya State Nature Reserve: is located in the valley of the middle reaches of the Amudarya river. Its northeastern and eastern border (62 km) stretches along the frontier between Turkmenistan and Uzbekistan. The reserve protects the unique desert and relict tugai ecosystems of the middle reaches of the Amu Darya river, unique flora (227 plant species) and fauna (372 vertebrates; insects not inventoried), and valuable tugai and desert ecosystems. Amu Darya nature reserve was created in 1982 with the aim of restoring the tugai ecosystems in the middle reaches of the Amu Darya river; protection of red deer (Bukhara deer- *Cervus elaphus bactrianus*) and restoring its population. The total area of the reserve is 48 351 ha. Tugai forests grow on both banks of Amudarya. The richest in biological diversity are the forests of the Gabakly, Nargyz, Gorelde tracts, which are protected by Amu Darya State Nature Reserve rangers. There are various forms of plants - trees, shrubs, semi-shrubs, dwarf shrubs or annual and perennial herbaceous plants. Egyptian Marsilia (*Marsilea aegyptiaca*) is listed in the Red Book of Turkmenistan, and bloomy poplar (*Populus pruinosa*) is included in the Red List of the International Union for Conservation of Nature (IUCN).

In the waters of Amudarya river, canals, collectors and oxbow lakes of the reserve, there are 36 species of fish, including species listed in the Red Book of Turkmenistan: barbel sturgeon (*Acipenser nudiventris*), large (*Pseudoscaphirhynchus kaufmanni*) and small (*P. hermanni*) Amu Darya shovelnose, asp (*Asploid esocinus*). Of 265 bird species found in the reserve, 28 are included in the Red Book of Turkmenistan. These are the snake eagle (*Circaetus gallicus*), steppe eagle (*Aquila rapax*), imperial eagle (*Aquila heliaca*), golden eagle (*Aquila chrysaetos*), long-tailed eagle (*Haliaeetus leucoryphus*), black vulture (*Aegypius monachus*), peregrine falcon (*Falco peregrinus*), steppe kestrel (*Falco naumanni*), little bustard (*Tetrax tetrax*), houbara bustard (*Chlamydotis undulata*), etc. 42 species of mammals live on the territory of the reserve, 8 of them, red nocturnal (*Nyctalus noctula*), Bobrinsky's jerboa (*Allactodipus bobrinskii*), river otter (*Lutra lutra*), striped hyena (*Hyaena hyaena*), sand cat (*Felis margarita*), caracal (*Felis caracal*), red deer (*Cervus elaphus*), and gazelle (*Gasella subgutturosa*) are included in the Red Book of Turkmenistan.

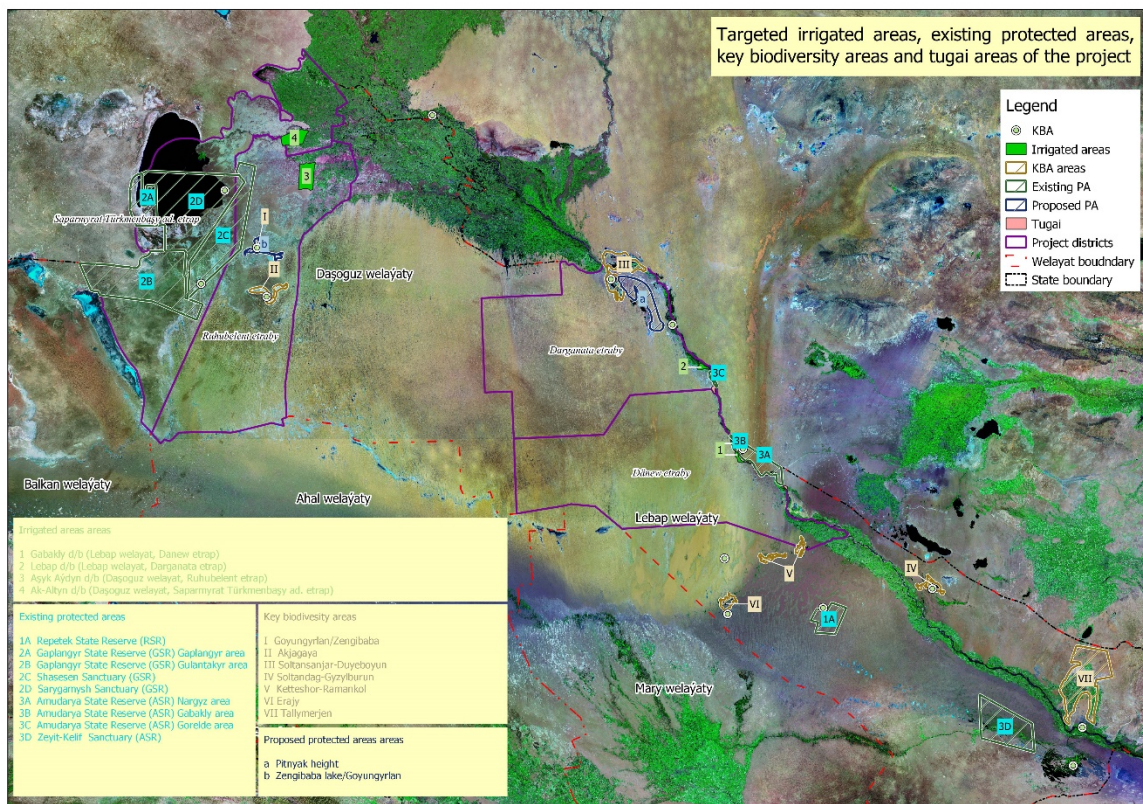
The Amudarya State Nature Reserve includes Kelif State Nature sanctuary (103,000 ha), located more than 300 km to the south of the reserve itself in the zone of influence of Karakum River (Karakum Canal). The sanctuary mainly protects nesting, migratory and wintering waterbirds. There are about 230 bird species, 13 of which are included in the Red Book of Turkmenistan. In some years 75-80 thousand waterfowl and near-water birds winter here.

Within the framework of the regional program "**Important Bird Areas of Central Asia**" (IBA/CA), carried out by the Ministry of Nature Protection of Turkmenistan together with the Royal Society for the Protection of Birds (RSPB) of Great Britain from 2004 to 2009, 50 important bird areas (IBAs) were identified on the territory of Turkmenistan, four of which (TM021 Karashor, TM022 Sarykamys, TM026 Akjakaya and TM033 Miskinata) are located in the territory of Dashoguz velayat. The most important in terms of bird habitat is "Sarykamys", which geographically completely coincides with the territory of Sarykamys Sanctuary. Of the 10 key bird areas identified in Lebap velayat, 2 (TM037 Soltansanjar-Dueboyun and TM039 Gorelde) are located in Darganata etrap, i.e. in the zone of impact of the Aral Sea Basin. The remaining 8 IBAs (TM040 Erady, TM043 Nargiz, TM044 Ketde-Shor, TM045 Repetek, TM047 Soltandag-Gyzylburun, TM048 Zeyid-Kelif, TM049 Tallymerjen and TM050 Koytendag) are located to the south, although all of them

are in the territory of Lebap welayat. The boundaries of such key bird areas as Yeradzhy, Nargiz, Repetek and Koytendag, as well as Zeyid-Kelif completely or partially coincide with the territories of the reserves and sanctuaries of the same name, with the exception of the latter, which, in addition to the territory of Kelif reserve, also includes the water area of the reservoir "15th Anniversary of Independence" (Formerly "Zeyid"). For biodiversity, especially birds, the Tallymerjen IBA, located on the right bank of the Amu Darya, in the Dovletli etrap, is of special importance. Such threatened species as black vulture, imperial eagle, steppe eagle and peregrine falcon can be found here.

The project will support habitat mapping and biodiversity assessments at these KBAs/IBAs in the targeted provinces (welayats) in order to update the information on their ecological integrity. For example some IBAs (e.g. IBA TM 033 "Muskinata") has lost its former importance for birds due to limited water availability. Based on improved land use planning and identified buffer areas around these KBAs/IBAs and envisaged local community agreements on sustainable agricultural practices that the project will promote, it is expected that the situation of these KBAs/IBAs will improve.

Fig. 7 Selected PAs and KBAs/IBAs in project areas



Preliminary assessment: Condition of land resources at the project sites

Table 12: Rapid assessment of land degradation at targeted project sites

Main land use types and key issues	Dashoguz welayat		Lebap welayat	
	S. Turkmenbashi etrap	Ruhubelent etrap	Deinau etrap	Darganata etrap
TYPES OF LAND USE				
Irrigated arable land, ha	77032	62293	30040	6937
Pastures, ha	1 452 909	1 273 064	1478505	1455964

Forests, ha	109 610	153 671	78094	44109
CONDITION OF LAND AND CLIMATE RISKS				
There is no single approach to assessing the quality of soils by chemical composition, depending on the types of salinity and soil types	Significant portion of land is subject to strong salinization		Weak and moderately saline soils are preponderant	
	The level of salinity of arable land in selected areas has been assessed according to 3 degrees: weakly, moderately and strongly saline. The laboratory of environmental supervision of the Ministry of Agriculture and Environmental Protection uses the method of Minashina (1978) and evaluates the type of salinity (chloride), degrees (non-saline, weak, medium, strong and very strongly saline).			
Pastures	In Dashoguz, the selected areas are mostly sandy desert pastures (Lebap) and a mix of sandy desert, gypsum and clay desert pastures (Dashoguz), and low productivity (between 0.82-2 c/ha) under various degrees of salinization. Climate risks: drought, increasing desertification exacerbated by water scarcity and increasing temperatures.			
Forests	Saxaul degraded areas are identified around PAs/KBAs/IBAs due to firewood cutting and desertification and overgrazing of adjacent pasture areas. It is necessary to create forest belts around desert pastures and around irrigated lands and planting saxaul on denuded land patches of the degraded desert pasture areas Climate risks: Drought, desertification, moving sands.			
Floodplain forests (tugai)	Some tugai areas have been allotted for irrigation. Require conservation by excluding arable land on floodplains. Climate risks: Hydrological regime variability, decrease of seasonally flooded tugai areas.			
TYPES OF LAND DEGRADATION				
Salinization of arable land	Largely observed		Moderate salinity	
Desertification of territories (trampling of pastures, loss of irrigated lands in fallow lands)	Observed	Observed	Observed	Observed
Degradation of forest	Observed	Observed	Observed	Observed
REASONS OF LAND DEGRADATION				
Irrigated arable land	The main cause of land degradation is salinization. Reasons for land degradation: excessive irrigation - lack of observance of irrigation norms for various crops; using old methods of irrigation; use of water for irrigation from collectors. Leaching of land from salts requires large consumption of fresh water, as a result of which the level of groundwater rises, which, when evaporated, cause secondary salinization; lack of skills and knowledge among land and water users; shortage of suppliers of fertilizers, seeds, seedlings, pest control products, consulting services. The state order, subject to land use and/or land lease, does not include mandatory observance of the necessary agrotechnical measures - crop rotations.			
Pastures	Irrational use of pastures as a result of lack of the required number of watering points, which leads to trampling of pasture areas near watering points and overgrazing in the vicinity of settlements; lack of skills and knowledge in calculating the carrying capacity of pastures.			
Floodplain forests (tugai)				The use of floodplain lands for irrigated crops.

During the PPG stage, several baseline analyses were carried out with the support of the Agrochemical laboratory of Lebap district to determine the degree of salinity of different sample sites (the PPG team was unable to analyze samples in Dashoguz district due to the lack of data/analysis protocols; the baseline analysis will be completed at inception phase).

Table 13: Degree of salinization of irrigated land at different (preliminarily) selected sites

Velayat	Etrap	Gengeshlik	Daykhan Association	Irrigated arable land (ha)	Of which:		
					Slightly saline	Moderately saline	Strongly saline
Dashoguz velayat	S.Turkmenbashi	Sarygamysh	“Ak Altyn” DA	4491	2743	1217	531
	Ruhybelent	Ashyk Aidyn	“Ashyk Aydyn” DA	7361	4010	2910	676
Lebap velayat	Deinau	Kabakly	“Kabakly” DA	1207	1350	201	127
		Isbaz	“Taze Yurt” DA	1070	320	4	нет
	Darganata	Lebap	“Lebap” DA	1433	600	440	46
Total:				15562	9023	4772	1380

The agrochemical laboratory of Lebap district, in addition to salinization, determines soil indicators according to the content of humus, phosphorus oxides, potassium oxides and identifies the type of soil. Below is the state of arable irrigated land in terms of soil assessment indicators in the selected pilot sites of Deinau and Darganata etrap of Lebap district (assessments for Dashoguz districts was not possible due to lack of data):

Table 14: Some baseline data at different sample sites in Lebap district

INDICATORS OF SOIL ASSESSMENT	“Kabakly” DA	“Taze Yurt” DA	“Lebap” DA (site 1)	“Lebap” DA (site 2)	“Lebap” DA (site 3)
Irrigated arable land (ha) - total	1676,9	323,8	1084,8	543,5	503,8
<i>Including:</i>					
Humus content (%)					
<= 0,8	1676,9	323,8	1084,8	543,5	503,8
Content of phosphorus oxides, P₂O₅					
<= 15	1424,1	323,8	913,2	474,1	483,0
16-30	252,8		171,6	69,4	20,8
Content of potassium oxides, K₂O (mg/kg)					
<= 150	312,0	32,9	117,6	61,0	292,4
151-250	952,7	280,6	728,0	290,8	171,3
251-400	405,2	10,3	218,2	191,7	40,1
> 400	7,0		21,0		
Mechanical properties of soil					
Light soils	835,9	238,4	162,4	167,8	503,8
Medium soils	841,0	85,4	922,4	375,7	
Chloride salinity, (Cl:SO₄)					
0,03 – 0,10 – low salinity	1349,3	320,2	599,6	262,4	367,6
0,10 – 0,30 – moderate salinity	200,8	3,6	439,7	137,9	136,2
0,30 – 0,60 – strong salinity	126,8		45,5	143,2	
Agrochemical Laboratory of Lebap velayat data (2020)					

The components of the analysis of water extract of soil samples approved by the state standard:

1. Bicarbonates, HCO₃
2. Chlorides, Cl

3. Sulfates, SO₄
4. Calcium, Ca
5. Magnesium, Mg
6. Sodium + Potassium, Na + Ka
7. Dry residue
8. Hydrogen index, pH

The above data are provided by the Laboratory for Monitoring Water and Soil Pollution of the Environmental Control Service of the Ministry of Agriculture and Environmental Protection of Turkmenistan.

The degree of soil salinity is determined by chloride salinity (Cl:SO₄ ratio).

The following gradation of the degrees of soil salinity by the value of Cl:SO₄ was adopted:

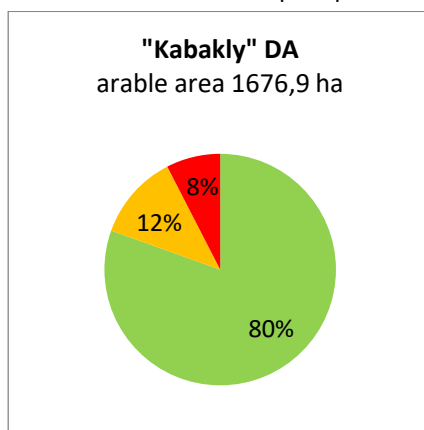
- Less than 0.03 - non-saline
- 0.03 - 0.10 - slightly salted
- 0.10 - 0.30 - medium (moderate) saline
- More than 0.60 - very highly saline (salt marshes)

In practice, gradations are used to assess soil salinity: low, medium and highly saline soils.

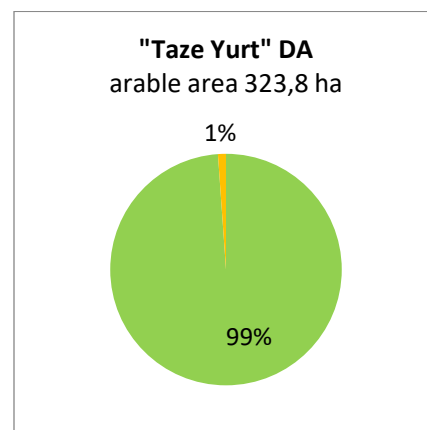
Fig.8 Diagrams of the distribution of irrigated arable land within the pilot plots - daikhan associations:

Degree of land salinity as a percentage of total arable irrigated land

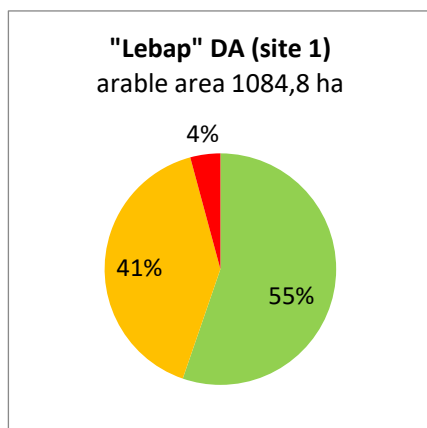
- Slightly saline
- Moderate saline
- Highly saline



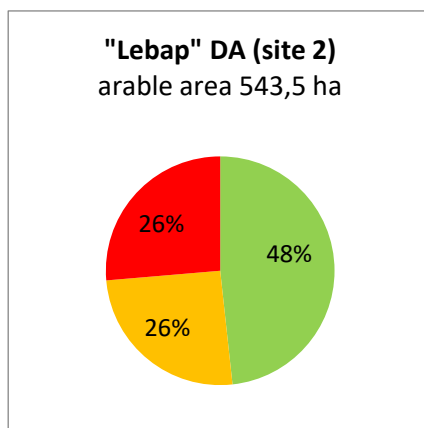
Patch 1.



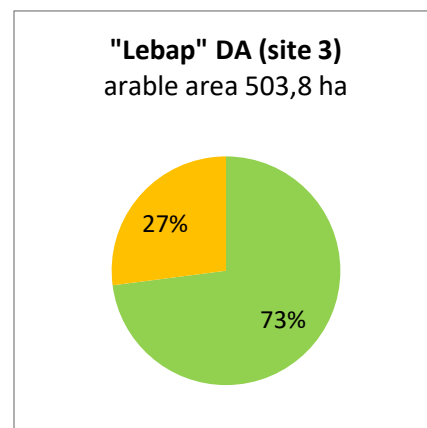
Patch 2.



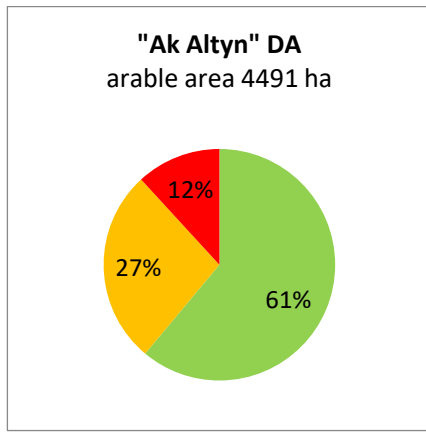
Patch 3.



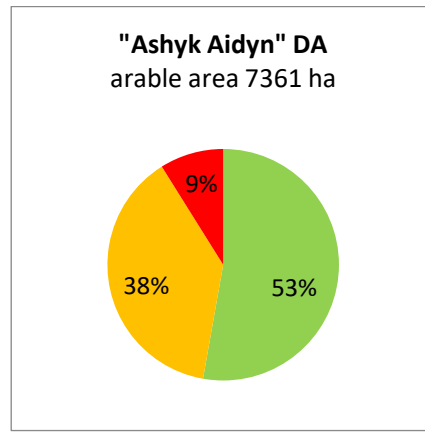
Patch 4.



Patch 5.



Patch 6.



Patch 7.

According to the data provided by the Agrochemical Laboratory of Lebap velayat (Patches 1-5) and the Land Resources Service of Dashoguz velayat (Patches 6, 7) (2020)

*** Note on laboratory technical capacities:**

- Laboratories having appropriate licenses can only analyze the components, the list of which is approved by the state standard. Analysis of additional components (for example, nitrogen oxides, etc., not included in the approved list) requires additional approvals.
- Poor technical base of laboratories, lack of funds to purchase necessary chemicals and other consumables.

Note on dissolution of the Daikhan Associations is listed under Annex 25

Annex 7: UNDP Risk Register

#	Description	Risk Category	Impact & Probability	Risk Treatment / Management Measures	Risk Owner
	<p>Enter a brief description of the risk. Risk description should include future event and cause.</p> <p>Risks identified through HACT, PCAT, SES, Private Sector Due Diligence, and other assessments should be included.</p>	<p>Social and Environmental Financial Operational Organizational Political Regulatory Strategic Other</p>	<p>Describe the potential effect on the project if the future event were to occur.</p> <p>Enter likelihood based on 1-5 scale (1 = Not likely; 5 = Expected)</p> <p>Enter impact based on 1-5 scale (1 = Negligible 5 = Extreme)</p> <p><i>Based on Likelihood and Impact, use the Risk Matrix to identify the Risk Level (high, Substantial, Moderate or Low)</i></p>	<p>What actions have been taken/will be taken to manage this risk.</p>	<p>The person or entity with the responsibility to manage the risk.</p>
1	<p>Risk 1. The modification of land use planning in the two targeted regions may lead to land use decisions that are failing to integrate the interests and concerns of the vulnerable people. This may lead to a short term limitation of access to natural resources. This could disproportionately disadvantage women and rural poor.</p> <p><i>SES Principle 2 Human Rights, P5</i></p> <p><i>SESP principle 2 Human Rights, P6</i></p> <p><i>SES Principle 3, Gender, P10</i></p>	<p>Environmental Financial Operational Organizational Political Regulatory Strategic Other</p>	<p>A key element of the project is the improvement of land governance in the country by implementing Land Degradation Neutrality, through LDN-centred land use planning. To this end, the project will identify and implement Land Degradation Neutrality (LDN) targets and actions to attain and monitor progress towards land degradation neutrality (under Output 1.1.) and will promote LDN-compatible sustainable land management (SLM) measures in the production zones (Output 2.1; 2.3)</p> <p>Land use planning in Turkmenistan is highly centralised and despite its efforts, the project could fail to consider all rural poor's concerns and land use decisions may lead to failure to fully consider the effects of the temporary restrictions in the use of land resources (e.g. temporary grazing limitations on degraded pastures).</p> <p>I=3 L=2 Moderate</p>	<p>The risks will be managed through the implementation of SESA and screening against LDN Check List; implementation of the Stakeholders Engagement Plan, Process Framework, Gender Action Plan and Grievance Redress Mechanism.</p> <p>The risk is partially mitigated by the project activities. One of the requirements for reaching and maintaining land degradation neutrality (LDN) and advancing land restoration and rehabilitation is the adherence to the LDN principles. Among the LDN principles underpinning the vision of LDN there are several principles that are highlighted below, which will be uphold. The project will hire qualified national and international land use and LDN experts to guide local authorities and the LDN land use planning activities to ensure the adherence to the LDN principles.</p> <p>The mere adherence to these principles and the screening against the LDN Checklist (per project Annex 26 LDN Checklist/ activity 1.1.3 and activity 1.1.4) should be able to provide the means to manage the risk of failing to appropriately take into consideration and mitigate the potential economic displacement resulting from LDN centered land use plans. LDN is anchored by several principles that are ensuring a human rights approach, balanced economic-social-environmental sustainability and participatory and inclusive mechanisms. These principles are key in mitigating risk and will be uphold.</p>	<p>UNDP CO RP/IP Project Manager/ CTA Project coordinators</p>

	<p><i>SES Principle 3, Gender, P11</i></p> <p><i>Principle 5, Accountability, P13</i></p> <p><i>Principle 5, Accountability, P14</i></p> <p><i>Standard 5 Displacement; 5.2</i></p> <p><i>Standard 5 Displacement; 5.4</i></p>			<p>However, those plans will nonetheless be prepared following an appropriately scoped/scaled SESA approach (with a subsequent ESMF if determined necessary per the SESA for compliance with the SES and national law).</p> <p>The knowledge and information generated from the land degradation neutrality (LDN) target setting and subsequent implementation and monitoring LDN progress and reporting LDN benefits (Act 1.1.4) further enhances accountability and monitoring of adherence to LDN principles. This knowledge can be used to evaluate the effectiveness of interventions in maintaining land-based natural capital (e.g. the outcomes of counterbalancing mechanism), to consider the effectiveness of safeguards (e.g. protection the rights of local people) and to inform future land use management decisions.</p>	
2	<p>Risk 2: The modification of resource management regimes through the implementation of sustainable land management (SLM) measures (e.g. forests, pastures, agricultural lands) implemented in support of long-term sustainability could affect short-term access and use of resources by local communities, including the rural poor and women.</p> <p><i>SES Principle 2 Human Rights, P5</i></p> <p><i>SESP principle 2 Human Rights, P6</i></p> <p><i>SES Principle 3, Gender, P10</i></p> <p><i>SES Principle 3, Gender, P11</i></p> <p><i>Principle 5, Accountability, P13</i></p>	<p>Environmental Financial Operational Organizational Political Regulatory Strategic Other</p>	<p>The project will be supporting improved management of agricultural lands, pasture resources, and sensitive ecosystems encompassing Key Biodiversity Areas, through the promotion of Sustainable Land Management (SLM) measures that in the medium and long term will lead to an increased land productivity and improved livelihoods. When modifying existing resource use and management regimes, there is always a possibility of some modification to the enjoyment of human rights or potential economic displacement of individuals living near or otherwise using territory included in the targeted area.</p> <p>The Risk is preventatively rated Moderate. However, UNDP has extensive experience working in Turkmenistan on similar types of interventions. In addition, the targeted protected areas are primarily in remote rural areas, and the inhabitants in such regions typically have a higher percentage of people living in poverty, and/or marginalized groups. Therefore there is a risk that the project activities could have an adverse effect on the enjoyment of human rights, and/or possibly restrict availability, quality or access to resources. There is the risk that the populations affected would include the poor or other marginalized groups, and that these groups would be disproportionately affected by the project activities (due to their inherent proximity to the targeted area). This includes the risk that women could be among those affected.</p>	<p>Targeted assessments of potential economic displacement will be carried out by qualified experts in a participatory manner with stakeholders during inception phase. The assessment will evaluate potential economic displacement impacts associated with the planned activities (as noted in the ESMF). Identification of timebound measures to avoid, reduce, mitigate and manage potential impact will be captured in an assessment report and revised SESP. If determined necessary by the targeted assessment, then a stand-alone management plan (i.e. Livelihood Action Plan) will be prepared to capture those management measures (please see ESMF annexes as a separate report/Project Document).</p> <p>In addition, the SESA will cover the Pasture management plans (Output 1.4), Sustainable Water Management Plans (Output 1.3) and Sustainable LDN compatible Land use Plans (Output 1.1.) in order to evaluate the potential social and environmental effects of the project's upstream activity which impacts on resource management regime.</p> <p>The risks are not deemed to be significant due to the fact that the envisaged Sustainable Land Management(SLM) and resilient measures will be implemented on farm land, on farmer associations' areas where the land is already allocated on the basis of long-term leases and only based on their agreement to participate in the project activities. Therefore, issues such as customary rights or land tenure</p>	<p>UNDP CO RP/IP Project Manager/ CTA Project coordinators</p>

	<p><i>Principle</i> 5, <i>Accountability, P14</i></p> <p><i>Standard</i> 5 <i>Displacement; 5.2</i></p> <p><i>Standard</i> 5 <i>Displacement; 5.4</i></p>		<p>I = 3 L = 2 Moderate</p>	<p>are unlikely to be triggered by the project. A participatory planning and decision-making process will ensure that any potential restrictions on the use of resources will not be imposed on the members, but defined through a collective decision-making process at the community level.</p> <p>Part of the Stakeholders Engagement Plan a project-level Grievance and Redress Mechanism (GRM) will be established and published so that all stakeholders, including remote communities are aware of its existence. The Project Manager and Local Field Coordinators will be responsible for documenting all grievances and ensuring they are addressed in a timely manner.</p> <p>During the project inception phase, the Daikhan Associations will be contacted and the selected areas for demonstration activities will be validated. The Screening, Assessment and Management activities at the demonstration site are captured in the ESMF.</p> <p>Throughout the implementation, the project will continue to be working closely with all stakeholders to ensure that they are adequately consulted and their considerations integrated in the modification of resource-use regimes. In any cases where there may be adverse impacts, mitigation and compensation measures will be developed and implemented. The project activities are designed to be implemented on the lands leased by participating farmers with their prior consent, or alternatively, in partnership with local authorities and based on participatory approaches where local communities are consulted: Integrated land use planning (Output 1.1); Sustainable water management planning (Output 1.3); Sustainable pastures and forests management planning and Restoration (Outputs 1.2 and 1.4); Community agreements underpinning endorsement of ecological corridors (Output 2.3); Community participation in the management of KBAs/IBAs (Output 2.1 and 2.3)).</p> <p>The fact that there are many different types of sustainable resource management measures which convey different types of usufruct rights provides significant flexibility for the project and all stakeholders to ensure that environmental as well as social, economic, and human rights needs and priorities are met. This includes assessments of different types of spatial and temporal zoning that allow different levels and types of land-use.</p>	
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				<p>Based on the remoteness of the areas targeted under the project, and the relatively low levels of population in the vicinity of those areas, any potential impact is considered moderate/limited and manageable at this screening stage. Any planning of the natural resources use (e.g. use of pastures) is being done in consultation with the local authorities managing the lands and local farmers that are leasing the land, and will address their particular needs. The participation of the most vulnerable members of community such as women and women headed households, youth, veterans etc. in the project activities is prioritized, and in some cases (for example the criteria for micro-grants) inclusion of such vulnerable members of community among beneficiaries represents a selection criterion.</p> <p>With respect to gender, a gender analysis has been undertaken (as required), and a Gender Action Plan developed. The project will hire a gender expert that will supervise the implementation of the Gender Action Plan.</p>	
3	<p>Risk 3: Expansion of PAs system could lead to potential limitations or restrictions of the use of natural resources. Strengthening management of existing PAs, such as improved PAs zoning, strengthening the sanctuaries' protection regimes, and/or creation of ecological corridors could further restrict access to and use of biodiversity resources by local communities, affecting livelihoods.</p> <p><i>SES Principle 2 Human Rights, P5</i> <i>SESP Principle 2 Human Rights, P6</i> <i>SES Principle 3, Gender, P10</i></p>	Environmental	<p>Local communities in the project area could face economic displacement due to the expansion of the PAs system (new PA designation in Darganata and Ruhubelent districts). Certain land use activities would likely be prohibited or restricted as part of these processes. Together with the significant environmental benefits that come with the designation of new PAs and delineation of community endorsed ecological corridors, there are potential risks for example restrictions/limitations of the use of natural resources that may be at odd with the current agricultural practices of the local communities in project areas. There is a risk that not all key user groups of natural resources at project sites are consulted in project implementation and they will be affected by the restrictions on the use of natural resources.</p> <p>I = 3 L = 3</p> <p>Moderate</p>	<p>The risk management measures will be implemented primarily through the Process Framework, Stakeholder Engagement Plan, Gender Action Plan and project level GRM.</p> <p>The project's qualified experts (specialised safeguards experts/consultancy company; conservation biologists, environmental economist, pasture and forest expert and community outreach officers), local coordinators, technical support staff and ministry counterparts will support the implementation of the Process Framework, in order to ensure the management of the economic displacement risk</p> <p>During the consultations, the project manager supported by the project's field coordinators and local community outreach will ensure that any potential risk of economic displacement in the affected communities, resulting from the designation of new PAs will be mitigated through the <i>Process Framework</i> (as per SES requirements, please see ESMF annexed as a separate report). The Process Framework would include the following elements: (i) Assessments of the socio-economic conditions of the local communities, highlighting the type and extent of the community use (and use by men and women) of natural resources in the targeted areas, and the exiting rules and institutions for these and management of natural resources, including customary use rights; (ii) Assessment</p>	UNDP CO RP/IP Project Manager/CTA Project coordinators

	<p>SES Principle 3, Gender, P11 Principle 5, Accountability, P13 Principle 5, Accountability, P14 Standard 5 Displacement; 5.2 Standard 5 Displacement; 5.</p>			<p>of threats and impacts on the relevant areas and local communities from various activities (e.g. poachers, traders, development activities) ; (iii) Assessment of the potential livelihoods impacts on men and women of new restrictions on the use of natural resource management in the proposed areas. (Please see Annex 16 Stakeholders Engagement Plan, including the Process Framework template). Facilitation of local round table meetings will be supported by the Local Advisory Committees (People Councils) in the respective districts/villages and by the daikhan associations managing the land. Evaluation of the necessity of compensatory mechanisms and eligibility criteria, describing the measures that will assist the potential affected persons to improve their livelihoods will be identified as the result of these assessments and discussions. The project manager will ensure that information and guidance to local communities about the UNDP Conflict resolution and grievance mechanism is provided. The formal process of the new PAs designation will not commence before/unless securing consensus with the local communities over the PAs border, management arrangements and monitoring measures (please see Annex 16 Stakeholders Engagement Plan / Process Framework Template; and Annex 5, SESP) .</p> <p>Furthermore, the Stakeholders Engagement Plan contains meaningful engagement measures and stakeholders roles and responsibilities. During the project implementation, the Stakeholder Engagement Plan will be updated to fulfill the requirements of Standard 5 in the first year of implementation before the relevant activities begin management. Designation of PAs and any changes to the natural resources regime identified as having the potential to lead to limitations and restrictions of access to resources, will not be implemented until/unless suitable, agreed management measures are in place. All the necessary approvals will be obtained from national and local authorities (particularly the Ministry of Agriculture and Environmental Protection) before the activities, and in line with the Process Framework (and UNDP SES).</p>	
4	<p>Risk 4. Enforcement of PAs regime and of wildlife corridors, following applicable environmental norms and legislation could</p>	<p>Environmental Social</p>	<p>Enforcement issues of the environmental regulations in the new PA may lead to conflicts between the rangers and the local community or among different local community members. When working in developing countries there exists a risk that the entity responsible for PA management (be it</p>	<p>The Management measures will be addressed through the Process Framework, Stakeholders Engagement Plan, Gender Action Plan and project level Grievance and Redress Mechanism. In addition, the project will ensure that management measures will be include in the new PAs management plans</p>	<p>UNDP CO RP/IP Project Manager/ CTA</p>

<p>pose risks to conflicts between rangers and local communities engaged in traditional livelihoods and practices.</p> <p><i>SES Principle 2 Human Rights, P2</i></p> <p><i>SES Principle 2 Human Rights, P7</i></p>		<p>governmental authority or community organization) does not have the full capacity necessary to fulfill their duties in terms of governance, administration, and management of natural resources. The enforcement personnel need to be appropriately trained to implement legal enforcement and manage relationship with local residents.</p> <p>I=3 L=3</p> <p>Moderate</p>	<p>(Sanctuaries, IUCN IV) to be further embedded under in the corresponding larger State Reserves management Plans (i.e. Gaplangyr and Amudarya) , as these Sanctuaries will fall under the jurisdiction of one or the other of above-mentioned state nature reserves. The project’s qualified experts, including the Capacity Development experts, local coordinators, technical support staff and ministry counterparts will work with the Local Advisory Committees (People Councils) and facilitate the assessments, local dialogue and round table meetings that the process involves.</p> <p>In addition, the project will train PA personnel, border inspectors and central and local authorities with an emphasis on human rights principles (in line with the SES).</p> <p>Some of the trainings will target specifically community outreach related topics , and addressing illegal activities <i>"Interaction with local communities" (opportunities for engaging local population in biodiversity conservation, joint patrolling of territories, protection of key sites)- Act. 2.1.3.</i> A total number of 10 training workshops for the PAs staff; 3 trainings for central and local authorities and 2 trainings for border inspectors will be supported by the project.</p> <p>Furthermore, the project will facilitate regular meetings between PA managers, ranger patrol staff, communities, inspectorates, border security in or in the proximity of the core areas to analyse trends in monitoring and legal compliance, aiming at addressing ongoing threats in a collaborative manner, including issues related to cross-border migration of wildlife (Activity 2.1.5.).</p> <p>Per the project’s design, the “ <i>Council for the Management of Protected Areas</i>” will be set-up under the coordination of the Department of Environmental Protection and Hydrometeorology within the Ministry of Agriculture and Environmental Protection, in order to coordinate the implementation of measures to prevent illegal activities, and keep a closer communication with local communities, involving them in as much as possible in the development of alternative sources of income. The Council for the Management of Protected Areas will then facilitate the creation of joint teams in Dashoguz and Lebap provinces, of gamekeepers together with representatives of United Society of Hunters and Fishermen, the Nature</p>	<p>Project coordinators</p>
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				Conservation Society, representatives of Forestry Enterprises and employees of the Ministry of Internal Affairs and environmental protection departments of the province authorities to ensure compliance with anti-poaching measures and involve local population in species monitoring. SES Requirements will be mainstreamed in the TORs of the Council. This will strengthen accountability and will lead in the long terms to responsible conscientious local communities, transitioning to sustainable biodiversity friendly practices.	
5	<p>Risk 5 Government resource management authorities may not have the capacity to fulfill all aspects of their mandate, and rural resource users may not have the capacity to claim their rights, which could potentially lead to the violation of human rights.</p> <p><i>SES Principle 2 Human Rights, P2</i></p> <p><i>SES Principle 2 Human Rights, P3</i></p>	Social	<p>There is a risk that institutional government duty-bearers related to the management of high value Aral basin ecosystems and land resources do not have the capacity to meet their obligations.</p> <p>In addition, by the same principle and rationale of the fact that the project will be working on natural resource management issues in rural and remote areas, there is a risk that resource users and other rights holders do not have the capacity to claim their rights. Such resource users living in rural and remote areas may not been fully educated and informed about what their rights are (in this case, in relation to usufruct or other natural resource-related rights), or the procedures to claim those rights. There is a risk that rights holders may not have the legal, self-organizing, or financial means to claim their rights. The risk is assessed based on situation and context that the project will be working in. The fact that there is limited capacity on both the part of the government and rights holders is an inherent element to working on sustainable livelihoods in developing countries. As with the previous risks, the project will be working closely with all stakeholders to support government natural resource management authorities and institutions to meet their obligations, and with resource user rights holders to claim their rights. The risk is assessed based on situation and context that the project will be working in. The fact that there is limited capacity on both the part of the government and rights holders is an inherent element to working on sustainable livelihoods in developing countries. As with the previous risks, the project will be working closely with all stakeholders to support government natural resource management authorities and institutions to meet their obligations, and with</p>	<p>Based on the SES screening the risk has been revised at PPG stage and rated Moderate. The project will be working closely with all stakeholders to support government natural resource management authorities and institutions to meet their obligations, and with resource user rights holders to claim their rights.</p> <p>It is expected that the risks will be mitigated by the project's targeted trainings of the local and national decision makers as well as natural resource users on specific themes such as: LDN and no-net-loss approach and Integrated Land Use Planning (Act 1.1.1) ; Efficient water use and integrated water management planning (Act 1.3.1; 1.3.2) ; Sustainable pastures management (Act 1.4.1); Environmental legislation enforcement, PAs patrolling, Human rights (Act 2.1.3-2.1.5); Sustainable management of regional water resources/Water Diplomacy (Act 3.1.1-3.1.2); Strengthening Extension services (Act 3.1.1). The project implementation will include national and local stakeholders' consultation during the development of the training modules and other/different handouts and information materials that will be used during the training seminars and some of them will be based on Training Needs Assessments. The training seminars will include evaluation forms and training formats will be flexible to adapt to participants needs.</p> <p>Multiple stakeholder consultation sessions during all relevant aspects of the project will ensure that all parties are aware of and understand the relevant obligations and rights.</p> <p>As with the previous risks, the project will be working closely with all stakeholders to support government natural resource management authorities and institutions to meet their obligations, and with resource user rights holders to claim their rights. This will be accomplished</p>	<p>UNDP CO RP/IP Project Manager/CTA Project coordinators Local Project Committee</p>

			<p>resource user rights holders to claim their rights. This will be accomplished through multiple stakeholder consultation sessions during all relevant aspects of the project to ensure that all parties are aware of and understand the relevant obligations and rights.</p> <p>I = 3 L = 3 Moderate</p>	<p>through multiple stakeholder consultation sessions during all relevant aspects of the project to ensure that all parties are aware of and understand the relevant obligations and rights.</p>	
6	<p>Risk 6: Project activities intended to reduce threats to critical habitats and environmentally sensitive areas could potentially end up harming them</p> <p><i>SES Standard 1 Biodiversity and NRM, 1.1</i></p> <p><i>SES Standard 1 Biodiversity and NRM, 1.2</i></p> <p><i>SES Standard 1 Biodiversity and NRM, 1.7</i></p>	Environmental	<p>The project specifically targets the conservation and sustainable management of critical habitats, environmentally sensitive areas, and legally protected areas in the high value ecosystems of Turkmenistan’s Lower Amu Darya basin. The conservation, protection, and sustainable use of these areas is the objective of the project. Therefore, the probability of these risks is “expected”. However, given that the objective of the project is to enhance the environmental and social qualities of these areas, the risk of negative social and environmental impacts is considered limited in scale and manageable through applicable standard practices . As with all of the risks, this risk will be consistently monitored throughout project implementation via the standard project management oversight and risk monitoring systems.</p> <p>I = 2 L = 3 Moderate</p>	<p>Based on the SES screening the risk has been revised at PPG stage and rated Moderate. The ESMF further identifies the steps for detailed screening and assessment of the risks, potentially related to the undefined activities and for preparing and approving the required management plans for avoiding, and where avoidance is not possible, reducing, mitigating and managing these potential adverse impacts The project will conduct targeted impact assessment at sites for activities that are not fully defined.</p> <p>The qualified project’s conservation biologists/landscape biologists will work with the safeguards experts/company to properly identify risks and proposed mitigation options for both upstream and downstream activities.</p> <p>During the project inception the exact location of the sites selected at PPG stage with the representatives of the Daikhan Associations, will be clarified , and aligned with the re-structuring process of the Daikhan Farms that was ongoing during the PPG phase. Therefore new screening and assessments of each proposed activities and demonstration site will be implemented prior to the implementation of activities to ensure that any impacts are identified, significance established and management measures selected.</p> <p>Based on the screening of the potential risks during PPG assessments, several management measures have been included in the project design, (e.g. Output 1.3 Act 1.3.3 and Output 1.2/Act 1.2.2) . The project will select several areas in order to demonstrate sustainable agricultural practices around Protected Areas (PAs) or Key Biodiversity Areas (outside PAs). These demonstrative activities will be agreed with the local authorities, respective land managers (lessees) and project specialists. The project design includes activities with no or minimal risk to the critical or sensitive habitats.</p>	<p>UNDP CO RP/IP Project Manager/ CTA Project coordinators</p>

				<p>The technologies envisaged to be implemented by the project have been previously tested by various donor supported initiatives including UNDP: e.g. efficient irrigation technologies (drip, sprinkler etc.); cleaning of small portions of the on-farm irrigation canals; leveling and land management; land stabilization (planting of trees); wells rehabilitation; use of organic fertilizers. The project will in any case conduct targeted screening and assessments at intervention sites.</p> <p>The project will ensure alignment with applicable legislation and UNDP Social and Environmental Safeguards , including that these provisions are included in the third party contractual agreements.</p> <p>As a precautionary measure contractual terms (for subcontracts who will be involved in restoration / conservation activities) are going to fully integrate regular step-by-step monitoring of each phase of a conservation / restoration activity and only proceed to the next stage when no harm confirmed. In case any of the contractor’s activities going off track, the contracts will have a clause for the subcontractor to rectify (on his own account) any deviation from the targeted result that the TOR envisage</p>	
7	<p>Risk 7: The project activities re-planting native tree species could have unforeseen ecological consequences.</p> <p>Standard 1 Biodiversity and NRM, 1.8</p>	Environmental	<p>The planned project activities include small amounts of reforestation. Output 1.2 includes reforestation of high value arid saxaul forest ecosystems. The assisted regeneration of a small portion of tugai forest ecosystem will be further supported by the project. The project team will work with the partner local forestry services and qualified project experts to ensure ecologically appropriate locations for planting trees, and will use native species (this is the purpose of the activity). The relatively small area of tree planting means that any ecological impact will be with a limited impact in case of a potential adverse effect. The overall environmental impact – considering the benefits of the planted trees – is expected to be positive. The purpose of the activity is to restore areas of forest that have been degraded.</p> <p>I = 2 L = 2 Low</p>	No measures needed as the risk is low.	<p>UNDP CO RP/IP Project Manager/ CTA Project coordinators M&E consultant</p>

8	<p>Risk 8: The expected project impacts of the conservation of endangered and threatened species, restoration of degraded land, and sustainable management of forest and pasture resources could be sensitive to changing climatic conditions in the future.</p> <p><i>SES Standard 2 Climate Change Vulnerability, 2.2</i> <i>SES Standard 2 Climate Change Vulnerability, 2.4</i></p>	Environmental	<p>Adverse impacts of extreme climatic events (drought; sand and windstorms; seasonal floods) can affect project’s interventions in the field and the livelihoods of local communities living in the target areas.</p> <p>I=3 L=2 Moderate</p>	<p>Based on the SES screening the risk has been revised at PPG stage and rated Moderate. The management measures will be implemented through the project’s envisage climate risk assessments and through activities that will demonstrate and put in place sustainable land management measures grounded by scientific principles and participatory mechanisms that will enable stakeholders to adapt the management of natural resources to any given context and threats. Attention to the current and potential impacts of climate change has been built-in to all aspects of the project.</p> <p>The project team will work with qualified experts and will conduct climate-risk assessment (Act. 1.3.1) to identify the most appropriate mitigation measures. In fact, several multi-disciplinary land and water resources assessments including climate risk assessments, the results of which will inform LDN compliant integrated land use plans and rationalised water management practices in the targeted districts.</p> <p>The climate risks and vulnerability assessments for the water sector includes hydroclimate projections under different climate change scenarios to inform integrated water management planning in the targeted districts. The prioritised climate risks will be followed by the validation of appropriate combination of SLM measures that will address these risks and will consider unique risks posed to vulnerable groups including women. Furthermore, the project adheres to LDN Principles and will screen the activities against the LDN Checklist. The ecosystem management benefits will be mostly associated with the resilience of land and water management resources, sustainable management regimes and rationalised and efficient use of water resources for improved management of land and forests. The project will further ensure that the partners and stakeholders will apply the best available climate change forecasts data for Turkmenistan’s lower Amu Darya basin, and will ensure that all project activities and plans take potential future climate impacts into consideration. For example, the project’s land restoration demonstrative areas will prioritize “LDN hot spots” support for the cultivation of trees, shrubs and herbaceous halophytes on salt resistant crops is of significant ecological importance in Turkmenistan, helping local communities adapt to these conditions. Afforestation with saxaul will mitigate the impact of salt and sandstorms.</p>	<p>UNDP CO RP/IP Project Manager/ CTA Project coordinators M&E consultant</p>
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				<p>Sustainable management of KBAs and desert pastures will review climate data and climate change projections as part of the development and implementation of sustainable management measures. The project will also identify potential gaps in the existing system of PAs in order to effectively conserve biodiversity, considering the potential for ecosystem change and ecological shifts due to climate change impacts. The project's work to support sustainable land and water use will also be grounded in the best available and most recent climate science relevant for this region of Turkmenistan. As part of the project's work on strengthening the management effectiveness of PAs it will also strengthen environmental monitoring capacities in order to better track the future effects of climate change within PAs and the targeted KBAs more broadly.</p> <p>As a result of climate change, decreases in water supply are predicted by all the hydroclimatic models.</p> <p>Water scarcity may have negative impact on the implementation of new technologies at demonstration sites. With regard to the potential impacts on the GHG emissions or other drivers of climate change, currently undefined project activities may lead to purchasing and installing irrigation water pumps as part of improved efficiency irrigation systems. The additional energy consumption driven by this equipment, it is not estimated to be significant though, due to the following reasons: (i) in cases where the project will be replacing the old/existing pumps, much more energy efficient equipment will be installed to replace inefficient equipment resulting in the reduction of energy use; (ii) in cases where the project will be purchasing new water pumps, clear energy performance requirements will be included in the specifications for the new equipment.</p>	
9	Risk 9: Project activities involving local/field interventions and close engagement with local communities may inadvertently contribute to the spread of COVID-19.	Environmental Social	<p>Activities at local level are based on participatory approaches, and most of the times will include meetings and local consultations. There are a number of training workshops and awareness events, round table meetings etc which will be organized mindful of government regulations and healthy standards and other appropriate safeguards.</p> <p>I=3</p>	<p>The risk will be mitigated through adequate safeguards such as: (i) clear procedures in place in case of COVID19 reinstatement of restrictions, approved during project inception (ii) use of protective equipment, maintaining social distancing and using remote methods of engagement whenever possible (iii) if adequate safeguards cannot be put in place, activities that entail close local communities engagement will be put on hold if necessary, and work programme/budget will be revised as needed. wherever</p>	<p>UNDP CO RP/IP Project Manager/ CTA Project coordinators</p>

	Standard 3 Community Health, Safety and Security, 3.4		L=3 Moderate	possible on-line meeting platforms will be used and travel decreased. All project meetings will be organized mindful of government regulations and healthy standards and other appropriate safeguards (including those of UNDSS).	
10	<p>Risk 10: The project may inadvertently contribute to potential perpetuation of discriminations against women. There are lingering disparities between men and women, particularly in rural areas and in the patriarchal cultures of some of the ethnic minority communities, which could be inadvertently replicated.</p> <p><i>SES Principle 3, Gender, P10</i></p>	Social	<p>The Project could potentially perpetuate discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities. In the pilot farmers associations and livestock farming sector, women account for around 51-52% of the population. They are mainly engaged in housekeeping, teaching, and administrative support services. Many more women form part of the unpaid family labor in home farming and lease of agricultural lands.</p> <p>I=2 L=3 Moderate</p>	<p>The management of this risk will be done primarily through the implementation of the Gender Action Plan (GAP) and will be monitored by the project specialized experts. The project design has consistently mainstreamed gender sensitive approaches and has created opportunities for tackling women’s needs, ranging from designing tailored training activities to organizing dedicated segments of radio programmes for women farmers. The project will provide ample opportunities for women to learn about LDN and SLM measures and resilient livelihoods and integrate best practices into their farm practices. Though the training programs and Farmer Field Schools, women will also be able to access the capacity building and training required to practice climate-resilient agriculture, as well as to diversify their livelihoods in more resilient ways. The project will ensure gender balance in project activities (e.g. seminars, community level events) including in the membership of different decision-making bodies (Working groups; Project Boards; People Councils; Evaluation Committees) including access to project financial assistance (grant scheme). Gender considerations will inform any community level vulnerability analysis linked to local infrastructure or demonstration plot development through consultation regarding needs and preferences on types of training and investment. The project will also gather gender-disaggregated data for evaluation purposes and use gender sensitive indicators (particularly around beneficiaries) to facilitate planning, implementation and monitoring. Complaints will be addressed through the project level Grievance redress mechanism.</p>	UNDP CO RP/IP Project Manager Gender expert
11	<p>Risk 11 The project may fail to ensure that labor rights, especially of vulnerable groups, are respected by local subcontractors. There</p>	Social	<p>Turkmenistan ratified all ILO main conventions. The information on the ILO website with regard to application of labor standards in Turkmenistan reveal no major observations and issues. There are however independent media streams revealing that forced labor is still practiced⁶⁸.</p>	<p>The Risk is rated Moderate. The project will ensure that national working standards (Labor Code) are respected for all the project activities</p> <p>The requirements of this Standard are to be applied in an appropriately-scaled manner based on the nature and scale of the project, its specific activities, the project’s associated</p>	UNDP CO RP/IP Project manager Field coordinators

⁶⁸ <https://www.solidaritycenter.org/children-forced-labor-turkmenistan-cotton-fields/>

	<p>could be risk of forced child labor at project sites.</p> <p><i>SES Standard 7; 7.1</i> <i>SES Standard 7; 7.3</i></p>		<p>I=2 L=3 Moderate</p>	<p>social and environmental risks and impacts, and the type of contractual relationships with project workers.</p> <p>The management procedures will be that specific requirements of the terms and conditions of the employment will be established, that will:</p> <ul style="list-style-type: none"> - Comply with minimum age requirements set out in International Labour Organization (ILO) Conventions or national legislation (whichever offers the greatest protection to young people under the age of 18) and keep records of the dates of birth of all employees verified by official documentation - Check the activities carried out by young workers and ensure that children under 18 are not employed in hazardous work, including in contractor workforces. Hazardous work will normally be defined in national legislation and will be likely to include most tasks in construction and several in agriculture. - Assess the safety risks relating to any work by children under 18 and carry out regular monitoring of their health, working conditions and hours of work - Ensure that any workers aged 13-15 are only doing light work outside school hours, in accordance with national legislation, or working in a government-approved training programme - Ensure that contractors have adequate systems in place to check workers' ages, identify workers under the age of 18 and to ensure that they are not engaged in hazardous work, and that their work is subject to appropriate risk assessment and health monitoring <p>In addition, the Project will ensure that appropriate wages will be paid per assigned tasks. Security and safety standards will also be respected and enforced. In addition to the UNDP Stakeholder response mechanism, the project will set up a project- Grievance Redress Mechanism to provide for a fair and free from influence entry point for their potential complaints and/or grievances. The Complaints Register and Grievance Redress Mechanism will provide an accessible, rapid, fair and effective response to concerned stakeholders, especially any vulnerable group who often lack access to formal legal regimes.</p>	<p>Local Project Committee</p>
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12	<p>Risk 12 There is a risk that the choice of irrigation technology may lead to an increase in the use of surface water.</p> <p><i>SES Standard 8; 8.6</i></p>		<p>The project's work under Output 1.3. will result in approximately 100,000 ha of irrigated land under sustainable water management. Under this output the project will demonstrate small scale local farm level repairs and improvement of irrigation systems (e.g. pumps; canals). The plans are expected to be funded and implemented by the government; therefore the impact is considered Moderate. Although the water management planning will indicate the technology to be used in order to reduce water wastage and improved resource efficiency, there is the risk that the choice of water irrigation technology would lead to increase water consumption.</p> <p>I=3 L=3 Moderate</p>	<p>This risk will be managed through SESA/ESMF (as needed) In addition, the project's deployment of qualified specialists (hydrologists, engineers) will ensure that the development of the Sustainable Water Use Plans (Act. 1.3.1) and will entail guidelines and specifications for the most efficient irrigation technology and cost effectiveness deliberations are included in the cost benefit analysis. In addition the Sustainable Water Use Plans will include a Monitoring mechanism to be implemented by local authorities and daikhan farms in order to monitor water use trends. With regard to the demonstration activities at sites (Act. 1.3.3.) the project's specialists will ensure that the appropriate technology is used, improvement works are designed and implemented in an appropriate manner and resource efficiency is considered. UNDP has accumulated solid experience in successful demonstration and promotion of water and energy efficient practices, which will be used through this project. The irrigation technologies that UNDP promotes are efficient in terms of rational water use and leave minimal or no drainage waters. Furthermore, more innovative and emission and waste-free options are rigorously being investigated now within the ongoing projects, such as solar-powered water pumping and treatment facilities to satisfy both household and agricultural needs, primarily in remote desert areas, where traditionally diesel is used for similar purposes. Thus, resource efficiency will become the backbone for defining and implementing technologies and equipment at the project's proposed sites, each of which will have a dedicated action plan and a cost-estimate.</p> <p>The design of demonstration projects featuring new water saving technologies will be based on careful hydrological studies in the chosen locations, that follow SES requirements and includes targeted screening at site (as necessary), and that would take into account the hydrographic parameters of the landscape, available water sources, their quantity and quality. Experienced local experts, drawing on international expertise as necessary, will carry out these engineering and hydrological studies. Irrigation technologies will also be monitored to assess water consumption trends.</p>	<p>UNDP CO RP/IP Project Manager/ CTA Project coordinators Qualified experts</p>
13	<p>Risk 13 The project's small scale, on-the-ground works may pose</p>	<p>Environmental Social</p>	<p>Project activities that entail possible public health concerns are not envisaged, quite the contrary, the project will contribute to enhancing public health, as it seeks to improve the social and economic environment as</p>	<p>The risk is managed through the targeted assessments at site. Targeted assessments are envisaged for all the project activities and restoration works, including specific impact</p>	<p>UNDP CO RP/IP</p>

	<p>safety risks to community members.</p> <p>SES Standard 3; 3.3; 3.6</p>		<p>well as the physical environment. All the works envisaged at project sites are at the lowest level of the irrigation system (i.e. at the level of farm canals/pumps/wells) but some risks of ground work infrastructure malfunction that could pose some safety risks may exist (e.g. repairs of wells) or minor disturbance of top soil where slipping or other small safety hazards are not excluded.</p> <p>I=3 L=2 Moderate</p>	<p>assessment at sites for other activities that are not fully defined.</p> <p>The project will primarily focus on restoring degraded and saline lands and support small repair of on-farm irrigation system. The contractors will ensure that structural elements and services (e.g. transportation) are designed, constructed, operated and decommissioned in accordance with the legal requirements and good international practice. Structural elements of any infrastructure that may pose significant health and/or safety analysis will be constructed by qualified engineers and professionals and include appropriate measures for supervision, quality assurance, operation and maintenance. The project's specialists including the safeguards expert will ensure that actions are taken to avoid or minimize any potential safety risks. The safety specialists appointed by the construction company will ensure compliance with applicable safety rules during the repair works. Appropriate signage and delineation of the works area on the ground will be ensured and temporary used access point should be as close as possible to the project site in order to produce a minimum disturbance on the surrounding environment. Health and Safety Plans will be implemented by sub-contractors for all construction activities according to the applicable legislation. Regular monitoring will be conducted for compliance with national construction norms and standards.</p>	<p>Project Manager/ CTA Project coordinators Local Project Committee</p>
14	<p>Risk 14 The project supported demonstration activities may inadvertently be implemented at/in proximity of significant cultural and historical significance sites.</p> <p>SES Standard 4; 4.1</p>	Social	<p>The project sites have been carefully selected during the PPG based on several criteria chiefly among which is the land condition and water irrigation system and proximity to PAs. The demonstration areas are located on daikhan farm estate and have been already used for decades for agriculture and animal husbandry. The selected sites are located around PAs. There is very low risk that these sites or other demonstration sites that could be further selected, be overlapping with cultural and/or historically significant sites.</p> <p>Turkmenistan has three sites under the List of World Heritage Sites. In the project targeted regions, there is only one site included in the World Heritage List namely the Soltan Tekesh Mausoleum, situated in Dashoguz province in Konye-Urgench city, located on the south side of Amudarya River. All the project's demonstration sites are located in the PAs surrounding geographies and although Dashoguz is one of the targeted project's region,</p>	<p>The mitigation of this risk will be done through the Process Framework, Stakeholder Engagement Plan and SESA/ESMF. The presence of the sites of cultural or historical significance will be re-assessed during the land use planning activities under Output 1.1.. Moreover, during the inception stage, the comprehensive stakeholders consultations will validate the sites selected at PPG stage. Where potential adverse impact is detected and if deemed significant, then a Cultural Heritage Management Plan should be developed, part of the ESMP. The project will ensure that <i>chance find</i> procedures are included in all plan and contracts regarding project-related constructions, including excavations, movement of earth or other changes to the physical environment, and that these procedures will include notification of relevant authorities. The mitigation of any potential risk will involve consultation with local authorities and stakeholders.</p>	<p>UNDP CO RP/IP Project Manager/ Project coordinators Local Project Committee</p>

			<p>none of the demonstration activities come near this site. However, there may be other culturally significant sites that the project could inadvertently impact. This risk will be monitored attentively, especially because the government has proposed other sites to be included in the List of the World Heritage, and there are two PAs under the project's scope, featuring among them, namely Repetek Biosphere Reserve and Amudarya Nature Reserve.</p> <p>I=3 L=3 Moderate</p>		
15	<p>Risk 15 There is a risk that the marginalized and vulnerable groups/ farmers cannot access agricultural extension services strengthened by the project's activities and/or are excluded from benefiting from access to technical knowledge</p> <p><i>SES Principle 2 Human Rights, P3</i> <i>SES Principle 2 Human Rights P5</i> <i>SESP Principle 2 Human Rights, P6</i> <i>SES Principle 3, Gender, P10</i> <i>Principle 5, Accountability, P14</i></p>	Social	<p>The project beneficiaries are small and medium size private farmers and farming enterprises. One of the project's activity is aimed at making agricultural extension services and resilience advice more accessible to farmers (Act 3.2.1). There is a risk that marginalized and vulnerable groups cannot access extension services or are excluded from the direct project support through Outputs 3.2 and 3.3. This risk is preventatively assessed moderate as access to knowledge within the framework of this project that promotes new innovative practices is deemed essential to achieving the intended outcomes and there is a risk that the vulnerable communities representatives, may not even hear about or be informed about the existence of these services and/or not be able to access due to remoteness of their location.</p> <p>I=2 L=3 Moderate</p>	<p>The risk management and mitigation measures are included in the project design.</p> <p>(i) For example the project includes partnerships with other initiatives (e.g. Adaptation Fund Project) and cooperation with the Union of Industrialists and Entrepreneurs, in order to strengthen extension service providers (Act 3.1.2). The AF Project builds on the process of vulnerability screening for better targeting the agricultural extension service providers while using technology such as mobile extension services, and as such, expanding the network of accessible demonstration plots for climate resilient technologies and on-farm consultations.</p> <p>(ii) In addition, this GEF project will implement ample awareness raising activities (Act 3.1.2) in order to reach out to all farmers and especially those located in remote areas and will strengthen the government's extension services in the targeted regions.</p> <p>(iii) The project's support envisages targeted radio programmes for farmers, including a dedicated segment for women farmers. These tailored radio programmes will test the opportunity and feasibility of setting up radio extension services to reach out to remote locations, and will include targeted programmes, designed based on farmers' needs. The project will work with a PR media company in order to implement these activities. The TORs for this assignment will include specific tasks to mitigate these risks i.e. carry out research and consultations with the representatives of vulnerable groups or remote</p>	<p>UNDP CO RP/IP Project Manager/ CTA Project coordinators Local Project Committee</p>

				communities in order to reflect their needs in the design of the awareness campaign and bespoke radio extension services.	
16	Risk 16 Conflicting government priorities relating to agricultural production and sustainable land use could lead to limited progress in achieving the project's intended outcomes and limited results in the conservation and restoration of degraded lands, and the protection of critical habitats for the long-term maintenance of ecosystem services necessary to support sustainable livelihoods.	Political Strategic	<p>Due to historic conflicting priorities among environment and other economy sectors such as agriculture; due to existing policy/regulatory loopholes; and due the lack of awareness and sufficient information of the decision makers on the negative impact of climate change on natural resources and consequences of unsustainable use of water resources, there is a moderate risk that the project strategic outputs will not be formally approved and therefore not implemented.</p> <p>This may happen due to a lack of consensus and reconciliation between environment and agriculture priorities, and due to a lack of acknowledgement of biodiversity values and the need to change the way agriculture practices are implemented and land use is planned. For example adoption of an integrated participative land use approach is an important step forward from the current centralized way of the water and land governance.</p> <p>I=3 P=3 Moderate</p>	<p>UNDP CO will organize regular quarterly Strategic Risk Meetings chaired by the RR in order to monitor the progress towards the formal approval of strategic project outputs (such as ILUPs/Integrated Land Use Plans; Sustainable Water Management Plans; Regional LDN targets and Action Plans; Legal amendments to Pasture Law; Water Code and Land Code; and new PAs dossier) and address the risk of not securing the official/forma approval of these strategic outputs- which would impact the progress towards outcomes and strategic objective. In case of such a risk, high level meetings with the national counterparts will be organized by UNDP CO and these high level discussions will be expected to mitigate the risk and secure political support and formal approval of the project results.</p> <p>The Risk will be attentively monitored by UNDP and its rating will be changed to High/Critical if needed.</p> <p>The risk is mitigated through different activities. The project will be closely working with a range of government stakeholders, partners, and resource users and managers and will organize education and awareness events (under Component 3) on the need to manage land and water resources in an integrated and sustainable way that will not deplete soil productivity and will not impact negatively on biodiversity . Through the support to National LDN target setting and support to an enabling policy framework (under Component 1/Output 1.1.) the project will facilitate inter-sectorial stakeholders consultations, expected to raise awareness and knowledge on LDN and integrated land use plans and biodiversity values. The project will also address some of the policy loopholes or inconsistencies or missing bylaws in the land and water management, and will advocate for their formal approval, as these legal amendments will contribute to an enable LDN framework. In addition, the regional LDN and ILUPs and Sustainable Water Management Plans will create a framework for Sustainable Land Management (SLM) measures and progress towards LDN and a more sustainable water use. Furthermore, the project will work to identify any critical conflicts in government policies and strategies relating to</p>	UNDP RR/ DRR RP/IP Project Board Project manager M&E consultant

				agricultural production that would potentially diminish the potential to achieve the project objective.	
17	<p>Risk 17: National and local government institutions responsible for the management of protected areas, pastures and forests do not have adequate capacity to support project activities and build and maintain and enforce working agreements with communities, living in and near KBAs</p>	Operational	<p>Improving zoning around the targeted reserves will be complemented by the delineation of the corridors for wildlife feeding and migration (Act. 2.3.1), aiming to improve the integration of PAs within the wider production landscape. The project will map critical habitats, buffer zones and corridors, and identify spatial and temporal habitat use patterns (e.g. bird nesting times, calving zones etc) and identify buffer zones and corridors for wildlife and develop cooperative land use planning and management agreements for these areas. The project will work with PAs staff, local authorities and forestry enterprises, community representatives and local councils (People Councils). While the initiative could be successful, there is a risk of the relevant authorities not having the necessary capacities to maintain these agreements with the local communities.</p> <p>I=3 P=3 Moderate</p>	<p>The project will strengthen and expand the current capabilities of the PAs administrations, environmental inspectors and border police, local authorities (i.e. key institutions responsible for the planning and management of PAs, enforcement of environmental norms, and pastures and forests management across the high value arid ecosystems of Turkmenistan’s Aral Sea basin) . The project will support the development of well-trained and properly equipped management, monitoring, enforcement, community liaison and pastoral and forest groups staff in the targeted PAs, forest management authorities, and district administrations of the target districts. The project’s qualified experts, including the Capacity Development experts, local coordinators, technical support staff and ministry counterparts will work with the Local Advisory Committees (People Councils) and facilitate the assessments, local dialogue and round table meetings that the process involves.</p> <p>The “ <i>Council for the Management of Protected Areas</i>” will be set-up under the coordination of the Department of Environmental Protection and Hydrometeorology within the Ministry of Agriculture and Environmental Protection, in order to coordinate the implementation of measures to prevent illegal activities, and keep a closer communication with local communities, involving them in as much as possible in the development of alternative sources of income. The Council for the Management of Protected Areas will then facilitate the creation of joint teams in Dashoguz and Lebap provinces, of gamekeepers together with representatives of United Society of Hunters and Fishermen, the Nature Conservation Society, representatives of Forestry Enterprises and employees of the Ministry of Internal Affairs and environmental protection departments of the province authorities to ensure compliance with anti-poaching measures and involve local population in species monitoring and maintenance of agreements that support ecological corridors. . This will strengthen accountability and will lead in the long terms to responsible conscientious local communities, transitioning to sustainable biodiversity friendly practices.</p>	Project manager UNDP CO and IP/RP M&E consultant

				<p>The project management unit will advocate for institutionalization of the training modules and inclusion of these training seminars into institutional capacity building framework of the personnel. The project will also support PA ‘business planning’ on revenue-generating opportunities (e.g. assessments will be conducted in order to ground alternative financial revenues e.g. from tourism, pasture tax, forest use and leasing fees, income from fines, etc.) to further augment the current budgets of the responsible institution that could be directed towards capacity building.</p>	
18	<p>Risk 18: Project implementation delays related to the COVID-19 pandemic.</p>	Operational	<p>The project implementation may be affected by delays, as was the case with other projects, affected by the restrictive measures implemented since the Covid-19 outbreak</p> <p>P = 3 I = 3 Moderate</p>	<p>The project will develop a COVID-19 Strategy and agree on the measures to mitigate any implementation delays that may result due to potential reinstatement of the COVID-19 related restrictions. UNDP issued corporate guidance on “Managing programmes and projects in the age of Covid-19”. These guidelines will be included in the Project COVID-19 Response Strategy. This Strategy will be presented and approved at Inception Workshop along with the main health safeguards that will be implemented during the implementation to protect people and environment and prevent the virus spread (i.e. use of masks, social distancing, remote meetings whenever possible; remote field monitoring as much as possible). The risk to the project posed by potential reinstatement of restrictions (travel; lockdown, others) will be mitigated through several steps that could include (but will be not limited to) : (i) Re-assessment of the COVID-19 restrictions on the AWP implementation (ii) Create/activate stakeholders and key project partners Telegram/Zoom group and move all the meetings online (iii) if activities will be delayed a few months but workplan will deliver on time and within budget, no formal revision is needed (iv) if activities cannot be completed on time, workplan will be revisited and budgets revised/ clearance by online Board meetings (v) if local activities and local field staff can continue activities, monitoring will be done remotely (using photos from the field) or through a virtual mechanisms (project will reach out to community leaders and key partners in the field who can ensure that activities will be aligned with the needs and take into account the constraints faced by the community. The project will ensure that adequate protective gear is handed over to local field staff and community members and that social distancing and other health safeguards are in place. UNDP TRAC unspent balance can be repurposed to COVID-19 in case of <i>force majeure</i>.</p>	<p>IP/RP UNDP CO Project manager PMU staff M&E consultant</p>

Green recovery opportunity post global pandemic:

COVID-19 pandemic has far reaching socio-economic indicators and the supply shocks coming from disruption of global value chains, border closures, lockdown of cities and workplaces, reduced spending on tourism, transport and trade, and oil price shocks are generally quite impactful on countries exporting hydrocarbons. In Turkmenistan's case, the effects are shown by a reduction in GDP growth rates and a possible shrinking of fiscal space and investments due to the reduction in export and tax revenues. Countries have responded with concerted efforts to shore up public health systems and social and economic response measures. The spread of the pandemic has however also demonstrated the consequences of a lack of resilience and preparedness to deal with such a pandemic. Both short term and longer-term measures in countries recovery plans were aiming at delivering human rights, economic prosperity, decent jobs and wider well being with an effort to address pressing environmental challenges and improve the environmental health and resilience of societies. Turkmenistan's five pillars of the socio-economic response to global pandemic is encompassing the following priority measures: (i) Improving the quality and access to health services, (ii) ensuring the continuity of social protection services, (iii) preserving jobs and supporting small and medium-sized enterprises, (iv) macroeconomic stimulus and multi-lateral cooperation and (v) ensuring social cohesion and community resilience. The UNDP/GEF project is contributing to the Social Cohesion and Community Resilience Pillar, which aims at reducing the risk posed by the global pandemic on communities, especially on vulnerable segments of the population, achieving sustainable delivery of public services, and transition towards a green economy. Through its focus on Land Degradation Neutrality (LDN) the project is aligned with the UNCCD approach that promotes LDN as a cost-effective measure to start a green economic recovery post pandemic. The LDN approach encourages careful consideration for sustainable management and use of land to rebuild from the pandemic and avert damaging land use changes and land conversions. The project promotes Sustainable Land Management (SLM) measures that are important for countries such as Turkmenistan, that are centres of origin for particular nut and fruit tree species with global commercial and nutritional importance. The sustainable and efficient use of water resources promoted by the project is supporting the transition efforts towards farming practices that do not deplete soil productivity and that are using water resources efficiently.

Annex 8: Monitoring Plan

This Monitoring Plan and the M&E Plan and Budget in Section VI of this project document will both guide monitoring and evaluation at the project level for the duration of project implementation.

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
<p>Project objective</p> <p>To promote land degradation neutrality, restore and improve the use of land and water resources in Turkmenistan's Amu Darya watershed to</p>	<p>Indicator 1 (GEF 7 Core Indicator 1) Terrestrial protected areas created or under improved management for conservation and sustainable use (ha) (sum of Indicator 19 and Indicator 20 below)</p>	<p>Midterm target: N/A</p> <p>Flora and fauna Inventories and habitat mapping necessary for the preparatory work completed</p> <p>End of Project (EoP) target</p> <p>1,137,554 ha⁷⁰</p>	<p>This indicator is based on the corresponding global-level GEF 7 indicators. This project indicator is designed to align with and feed into this global level reporting.</p> <p>The End of Project target represents the Sum of terrestrial new PAs created</p>	<p>Baseline data according to NBSAP; MAEP data.METT assessment.</p>	<p>Annually</p> <p>Reported in DO tab of the GEF PIR</p>	<p>MAEP</p> <p>Project manager</p> <p>UNDP Country office</p> <p>M&E consultant</p>	<p>Project technical reports, METT scorecards validated by the project final evaluation.</p>	<p>Risks: Project team fails to secure official approval necessary for formal designation of new PAs; lack of political support; shifting government priorities due to Covid-19.</p> <p>Assumptions: Interest from the central government, private sectors and farmers in biodiversity conservation; No major negative impacts (e.g. Covid-19) on the</p>

⁶⁹ Data collection methods should outline specific tools used to collect data and additional information as necessary to support monitoring. The PIR cannot be used as a source of verification.

⁷⁰ Sum of existing PAs under the project scope: (i) Gaplanyr State Nature Reserve **926,223 ha** (includes Sarygamish Sanctuary 541,466 ha) and Shasenem Sanctuary (109,002 ha); Amudarya State Nature Reserve **151,351 ha** which includes Amudarya Reserve territory (48,351 ha) and its Kelif Sanctuary of 103,000 ha); (ii) Area of the newly proposed PAs/Sanctuaries **60,000 ha** (Pitnyak Nature Sanctuary: 40,000 ha and Zengibaba Lake Sanctuary 20,000 ha)

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
enhance the sustainability and resilience of livelihoods and globally significant ecosystems.			Indicator 19 (60,000 ha) + the PAs with improved management effectiveness Indicator 20 (1,077,554ha)					availability of the state budget for the protection and management of new and existing PAs.
	Indicator 2 (GEF 7 Core Indicator 4) Area of landscapes under improved practices (hectares, excluding PAs) (sum of Indicators 11 Indicator 12 and 50% of Indicator 26)	Midterm: Baseline methodologies agreed. Expert mapping necessary for the preparatory works completed. EoP target: 746,303 ha	This indicator is based on corresponding global-level GEF 7 indicators. This project indicator is designed to align with and feed into this global level reporting. The target represents the sum of: 500,000 ha of pastureland (Output 1.4); 100,000 ha irrigated land (Output 1.3); 146,303 ha of ecological corridors and buffer zones (Output 2.3. The latter represents 50% of the 292,607 ha under Output2.3; the 50% is calculated to avoid double counting of some	Official data: from Local authorities (kyakimliks). Official agreements with MAEP; Daikhan associations records; Official data from MAEP.	Annually Reported in DO tab of the GEF PIR	Local Stakeholder Committee MAEP Project manager/Local field coordinator UNDP Country office M&E consultant	Project reports and documentation, e.g. annual reporting in PIR; Written agreements with Daikhan associations/daikhan farms and local authorities, including monitoring scheme; Successful completion of project activities for relevant project components, as verified by the MTR and TE.	Risks: Stakeholders are reluctant to adopt SMLM measures and improved practices, due to the lack of a stronger enabling framework and sufficient incentives. Assumptions: Environmental/climate variability within normal range. Uptake of SLM practices promoted through integrated land use planning and LDN mandatory guidelines. Existing interest from local communities to participate in project activities and continue on sustainability path. A critical mass of understanding and awareness exists to compel local natural resource users to uptake demonstrated SLM measures.

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
			of the areas that may be overlapping with the targeted areas under Output 1.4.)					
	<p><u>Indicator 3 (GEF 7 Core Indicator 11)</u> Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment (#):</p> <p># of <u>public sector employees</u> with improved capacity for LDN, SLM, integrated land use</p> <p># of <u>local resource users and agricultural producers</u> with improved awareness and technical knowledge on LDN, SLM and sustainable water use, alternative livelihoods, benefiting from the project activities.</p> <p># of <u>Grants Micro-scheme beneficiaries</u></p> <p># of <u>PAs staff/environment officials</u> with enhanced</p>	<p>Midterm target Total: 4,150 (1,245 women and 2,905 men)</p> <p><u>Public sector employee:</u> 50 public sector staff at national and local level of which at least 30% women (15 women and 35 men)</p> <p><u>Local resource users and agricultural producers:</u> Total 4,000 (1,200 women and 2,800 men)</p> <p><u>Grants Micro-scheme beneficiaries:</u> N/A (too early for accrued benefits)</p> <p><u>PA staff/environment officials:</u> 100 PA staff with enhanced capacity (30 women and 70 men)</p> <p>EoP target</p>	<p>The indicators reflect : (i) number of public sector employees of key partner institutions benefiting from project activities (number of staff employed by Ministry of Agriculture and Environment Protection resources-relevant departments, State Committee on Water Resources (and its local Production Departments of “Dashoguzsuvkho zhalyk” and “Lebapsuvkhozhal yk,” province and district level authorities and their technical staff; national representatives in IFAS and ICSD;</p>	<p>Annual project team analysis of number of people directly benefiting from project activities.</p> <p>Project internal sources such as: list of training participants and KM product distribution lists will be analyzed as data sources/ Project beneficiary institutions will be approached to contribute to data collection such as: (i)water, land, biodiversity resource managers (authorities) participating in trainings sessions and/or awareness raising events;(ii) local communities natural resource users participating in the project’s events (iii) PA staff participating in the project’s capacity building and knowledge product development; (iv) PAs units staff targeted by trainings and</p>	<p>Annually Reported in DO tab of the GEF PIR</p>	<p>Project manager and Field Coordinators</p> <p>UNDP Country office</p> <p>M&E consultant</p>	<p>Project reports validated by GEF Midterm and Terminal evaluation.</p> <p>Official records of the public events; Official national and local authorities directly participating in/benefiting from the project activities; Farmer and household surveys; Interviews with key stakeholders; records of radio/TV talk shows publicly available; other KM products publicly available.</p>	<p>Risks: Large scale staff turn-over in participating institutions and agencies. Limited benefits for the producers who adopted environmentally friendly practices. Women participation is hindered by social and cultural preferences for women to maintain household.</p> <p>Assumptions: Local resource users and government officials of key project partners actively involved in project activities.</p>

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
	individual capacity in biodiversity conservation and sustainable management, legal and enforcement and patrolling	<p>Total: 10,150 (3,045 women and 7,105 men)</p> <p><u>Public sector employee:</u> 100 public sector staff at national and local level of which at least 30% women (30 women; 70 men)</p> <p><u>Local resource users and agricultural producers:</u> Total 9,750 (2,925 women; 6,825 men)</p> <p><u>Grants</u></p> <p><u>Micro-scheme</u> 100 (30women; 70 men)</p> <p><u>PA staff/environment officials</u> 200 PA staff with enhanced capacity (60 women and 140 men)</p>	<p>(ii) number of local resource users participating in, benefiting from, the project activities : (project demonstrations; (iii) Micro-scheme grant agreements; project trainings and awareness activities; strengthened extension services); the number represents a conservative estimate of the total local population employed in agriculture in the targeted districts expected to take up/benefit from SLM practices.</p> <p>(iv) number of PA staff participating in the trainings (all the initial PAs [that were considered initially at PIF stage] will be benefiting from trainings)</p>	<p>awareness activities; researchers benefiting from PAs strengthened infrastructure; (v)research institutions, NGOs engaged in biodiversity assessments, pasture inventories, forestry management measures, agricultural policy developers; (vi)local community representatives directly benefiting from improved pastures and forests (vii) beneficiaries of the micro-grants scheme (and their household family members benefiting from improved livelihoods). (viii) records of radio/TV talk shows publicly available; (ix) official records of people supported by the extension services that were themselves supported/trained by the project.</p>				

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
Project Outcome 1	Indicator 4: Existence of baseline values for LDN indicators at national and region/province scale	<p>Midterm target:</p> <p>LDN working groups set-up (30% women) and LDN baseline collection methodologies elaborated</p> <p>EoP target</p> <p>Baseline assessment for LDN indicators at national level</p> <p>Baseline assessment for LDN indicators at province level in Dashoguz and Lebap provinces</p>	This indicator focuses on the existence of systematized data, agreed methodologies and indicators that can be used to assess land degradation and establish baseline information for LDN targets.	<p>MAEP official LDN National Reports</p> <p>Local authorities reports</p> <p>National Action Plan to Combating Desertification (revised)</p>	Annually Reported in DO tab of the GEF PIR	Project Manager, project, Project Field Coordinators; LDN/Land specialists M&E Consultant	Project reports validated by final evaluation	<p>Risks: The project may fail to mobilize the necessary technical expertise to adequately generate, disseminate capture and codify knowledge within the project.</p> <p>Assumption: The Government maintains its commitment to fight land degradation and set National and regional LDN targets. Partnership with UNCCD/GM Target Setting Programme. There is local and international experience and expertise available and leveraged through the project;</p>
	Indicator 5: Prioritized policies and regulations to facilitate LDN implementation	<p>Midterm: Policy and regulatory amendments developed and submitted to the Ministry of Agriculture and Environment Protection for approval</p> <p>EoP target:</p> <p>-Action Plan to Combat Desertification showcasing Dashoguz and Lebap LDN regional target setting, approved and under implementation</p> <p>-Bylaws developed under the Law on Pastures to include</p>	This indicator focuses on several entry points for the project in view of facilitating the implementation of LDN.	Official data MAEP; UNCCD reports.	Annually Reported in DO tab of the GEF PIR	Project manager LDN/Land Specialist M&E Consultant	<p>Means of verification:</p> <p>Project reports, interviews with stakeholders; GIS analysis of targeted project intervention areas; Legal and regulatory assessments.</p>	<p>Risks: The relevant authorities' may not approve the policy and regulatory amendments.</p> <p>Assumptions: The institutional arrangements for LDN reporting will be included in the National Plan on Combating Desertification, which will be formally approved and these LDN implementation and reporting arrangements will become mandatory. The government will</p>

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
		regulations for sustainable pasture use and monitoring - Amendments to the Land Code introducing LDN concept and regulations for the counterbalancing mechanism	showcasing project's experience and guidelines for replication to other regions. Amendments to the Pasture Law will allow for a more strategic allocation of pastureland (aligned with LDN principles) and will provide a framework for monitoring of pasture use. And the amendments to the Land Code will include and legally define the LDN concept and means of implementation.					remain committed to fighting desertification.
	<u>Indicator 6:</u> Status of integrated land use planning in Aral Sea Basin landscape	Midterm: Working groups established; Methodologies identified EoP Target: 4 Integrated land use plans completed, adopted and under implementation for 4 targeted districts in Dashoguz and Lebap provinces	This indicator is focusing on the integrated land use planning, as a mean to achieving land degradation neutrality (LDN) and an improved land/water governance in PAs buffer zones and productive zones. The target is represented by: 4 Integrated LDN	Local authorities official records of the existence of 4 Integrated Land Use plans in the targeted districts	Annually Reported in DO tab of the GEF PIR	Project Manager, Field Coordinators LDN/Land Specialists, M&E Consultant	Existing official information at province level and land use plans under implementation; GIS analysis of integrated management plan maps validated by Final Evaluation; Interviews with stakeholders and province (region)	Risks: The project may fail to fully secure engagement of the local/national authorities in the land use planning; National authorities may not approve the ILUPs formally; technical capacities and political will may be absent. Assumptions: Land degradation high among local/regional priorities; existing awareness and

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
			centred Land Use Planning in the targeted districts, officially approved (Output 1.1).				authorities; MTR and final evaluation reports;	acknowledgement on the importance of LDN compliant integrated land use planning; exiting interest from the national and province level authorities (kyakimliks) to implement integrated land use planning, that will become mandatory and will lead to achieving land degradation neutrality targets at province level
	Indicator 7: # of landscapes or jurisdictions with LDN regional voluntary targets, action plans and monitoring systems in place	<p>Midterm: Criteria and methodologies established for regional LDN target setting in the targeted provinces</p> <p>EoP target: 2 Regional LDN Targets set up in Dashoguz and Lebap regions</p>	<p>The indicator focuses on the LDN subnational level (at province level) in Dashoguz and Lebap regions (Output 1.1).</p> <p>The target is to have the LDN Regional targets for Dashoguz and Lebap identified, formally approved, and included in the National Plan on Combating Desertification; monitoring and reporting institutional arrangements approved and operational. Once approved and</p>	National Action Plan on Combating Desertification UNCCD reporting	Annually Reported in DO tab of the GEF PIR	Project Manager; LDN/Land Specialists, Project Field Coordinators; Pastures/Forests specialists M&E Consultant	Existing official information at province level and land use plans under implementation; Interviews with stakeholders and province (region) authorities; MTR and final evaluation reports;	<p>Risks: National authorities may not approve the LDN targets, action plans and monitoring arrangements formally.</p> <p>Assumptions: Interest from the local/regional and central government, private sectors and farmers in achieving land degradation neutrality through a combination of Sustainable Land Management (SLM) measures.</p>

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
			implemented, actions encompassed in this Plan are expected to enable scaling up of LDN approaches.					
	<u>Indicator 8 (GEF Core indicator 3.Sub-indicator 3.1) Area (ha) of degraded arable land restored for improved ecosystem services</u>	Baseline to be determined at inception. Midterm: Baseline and methodologies developed. EoP target: 4,700 ha	This indicator is based on corresponding global-level GEF 7 indicator3 and feeds into the global indicator. The target is 4,700 ha arable land restored (Output 1.2/Act. 1.2.1). The location of these areas will be finally agreed with the local authorities, daikhan associations and farmers, based on the identification of the <i>LDN hotspots</i> (Act 1.1.4). Some restoration methods will be preliminarily tested on 20 ha with the staff from the National Institute of	Research results (National Institute of Deserts, Flora and Fauna). Official data MAEP, State Committee of Water resources; local authorities and daikhan associations.	Annually Reported in DO tab of the GEF PIR	Project Manager, Project Field Coordinators; Pastures/Forests specialists M&E Consultant	Field/plot surveys and verification of field monitoring fiches validated by project terminal evaluations. Project reports; GIS analysis of targeted project intervention areas. Project reports and documentation, e.g. annual reporting in PIR; Written agreements with Daikhan associations/daikhan farms and local authorities, including monitoring scheme; Successful completion of project activities for relevant project components, as	Risks: The project may fail to engage the key partners and local communities in the implementation of SLM measures designed by the project, due to the lack of funding, interest, and prioritization of these measures. Assumptions: There is interest and sufficient co-financing among farmers (daikhan farms), forestry enterprises and pasture associations and local authorities to apply SLM measures and forest regeneration in the production zones.

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
			Deserts, Flora and Fauna.				verified by the MTR and TE	
	<u>Indicator 9 (GEF Core indicator 3/Sub-indicator 3.2) : Area (ha) of forest restored for improved ecosystem services.</u>	Baseline to be determined at inception. Midterm: Baseline and methodologies developed. EoP target: 5,300 ha	This indicator is based on corresponding global-level GEF 7 indicator 3 and feeds into the global indicator. The target is 5,000 ha of degraded saxaul forest ecosystem with planned restoration actions. The indicator further includes 300 ha of tugai forest restored in Amudarya Reserve buffer zone.	Local forestry enterprises (Lebap and Dashoguz) official records. Amudarya Reserve data (from PAs unit or MAEP).	Annually Reported in DO tab of the GEF PIR	Project Manager, project; Project Field Coordinators; Pastures/Forests specialists M&E Consultant	Field reports/field verification reports validated by Project terminal evaluation report; Approved forest management plans included in the local forestry enterprises/ local authorities plans. Project reports and documentation, e.g. annual reporting in PIR; Written agreements with Daikhan associations/daikhan farms and local authorities, including monitoring scheme; Successful completion of project activities for relevant project components, as verified by the MTR and TE	Risks: Key project partners (Forestry enterprises and local communities) may not have the resources or interest to implement recommended restoration measures; Climate change related events may reduce restoration success. Assumptions: Environmental/climate variability within normal range. Increased uptake of SLM practices and integrated land use planning; Existing interest from local communities to participate in project activities.

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
	<p><u>Indicator 10 (GEF Core indicator 3/Sub-indicator 3.3): Area (ha) of land where degradation is reduced and pasture habitats restored as a result of phyto-reclamation evidenced by:</u></p> <ul style="list-style-type: none"> • Shrub and semi-shrub vegetation cover • Success of pasture establishment • Use of distant pasture 	<p>Midterm: Baseline and methodologies developed.</p> <p>EoP target: 50,000 ha</p>	<p>This indicator is based on corresponding global-level GEF 7 indicators. This project indicator is designed to align with and feed into GEF7 global Indicator 3.</p> <p>The target is 50,000 ha of pastures under sustainable management plans (Output 1.4) to restore degraded pastures, and reflect increased vegetation cover, soil productivity improvements, pasture productivity improvements, and improvement in distant pasture use.</p>	<p>Data on pasture management is difficult to collect, as there are no links between local authorities and pasture users. The Project team will collect this data through pasture baseline inventories and georeferenced data; agreed methodologies and monitoring indicators (monitoring fiches); LDN assessments and GIS supported expert mapping during the land use planning.</p>	<p>Annually Reported in DO tab of the GEF PIR</p>	<p>Project Manager, project; Project Field Coordinators; Pastures/Forests specialists M&E Consultant</p>	<p>Field reports/field verification of pasture monitoring schemes validated by project terminal evaluation; Pasture management plans for the restoration of degraded pasture areas (under implementation). Project reports and documentation, e.g. annual reporting in PIR; Written agreements with Daikhan associations/daikhan farms and local authorities, including monitoring scheme; Successful completion of project activities for relevant project components, as verified by the MTR and TE</p>	<p>Risks: Daikhan associations and livestock farmers may not have the resources to co-finance the restoration works or interest to apply rotational grazing techniques.</p> <p>Assumptions: Farmers understand the ecological and socio-economic benefits of sustainable pasture management planning, restoration techniques. There is an interest among farmers (daikhan association), private enterprises, farmers associations and local authorities to apply SLM measures and sustainable pasture management and use of distant pastures; there is available co-financing for the rehabilitation of water infrastructure (pasture water wells). Environmental/climate variability within normal range.</p>

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
	<p><u>Indicator 11 (GEF Core Indicator 4 Sub-indicator 4.1):</u> Area (ha) of sustainable pastureland regimes in production zones and buffer areas</p>	<p>Baseline to be determined at inception.</p> <p>Midterm: Baseline and methodologies developed.</p> <p>EoP target: 500,000 ha</p>	<p>This project indicator is designed to align with and feed into the GEF global Indicator 4 (Area of landscape under improved management to benefit biodiversity). The target is 500,000 ha of pastureland managed in a biodiversity-friendly way including measures that are gender sensitive, involving women to a greater extent in decision making process, in as much as possible. (Output 1.4), increasing the use of distant pastures and reducing or preventing the degradation of actively used pastures. Selected areas are primarily located around PAs and KBAs/IBAs to prevent further habitat destruction due to unsustainable use</p>	<p>The Project team will collect this data through pasture baseline inventories and georeferenced data; agreed methodologies and monitoring indicators (monitoring fiches); LDN assessments and GIS supported expert mapping during the land use planning.</p>	<p>Annually Reported in DO tab of the GEF PIR</p>	<p>Project Manager, project; Project Field Coordinators; Pastures/Forests specialists M&E Consultant</p>	<p>Field reports/field verification of pasture monitoring schemes validated by project terminal evaluation; Pasture management plans for the restoration of degraded pasture areas (under implementation). GIS analysis of targeted project intervention areas; Project reports and documentation, e.g. annual reporting in PIR; Written agreements with Daikhan associations/daikhan farms and local authorities, including monitoring scheme; Successful completion of project activities for relevant project components, as</p>	<p>Risks: Daikhan associations and livestock farmers may not have the resources to co-financing the restoration works or interest to apply rotational grazing techniques.</p> <p>Assumptions: Farmers understand the ecological and socio-economic benefits of sustainable pasture management planning, restoration techniques. There is an interest among farmers (daikhan association), private enterprises, farmers associations and local authorities to apply SLM measures and sustainable pasture management and use of distant pastures; there is available co-financing for the rehabilitation of water infrastructure (pasture water wells). Environmental/climate variability within normal range.</p>

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
			of pastures and encroachment with KBAs. In the long term, the areas around KBAs/IBAs and PAs are expected to be managed sustainably by the local livestock farmers, forestry enterprises, local authorities.				verified by the MTR and TE.	
	<u>Indicator 12 (GEF Core Indicator 4 Sub-indicator 4.3):</u> Area (ha) of irrigated arable land under efficient water management	Baseline to be determined at inception. Midterm: Detailed methodology and approaches for updating water management information in support of an improved water and crops management EoP target: 100,000 ha	This project indicator is designed to align with and feed into the GEF global Indicator 4 (Area of landscape under improved management to benefit biodiversity). The target is to have efficient water management plans covering 100,000 ha of irrigated areas in 4 targeted districts	State Committee on Water Resource data local; official data from the Production Departments of “Dashoguzsuvkhodzhalik” and “Lebapsuvkhodzhalik”; expert mapping during land use planning and water use assessments.	Annually Reported in DO tab of the GEF PIR	Project Manager, project; Project Field Coordinators; Water Specialists; M&E Consultant	Field monitoring. Midterm and Final GEF evaluation project reports. Project reports and documentation, e.g. annual reporting in PIR; Written agreements with Daikhan associations/daikhan farms and local authorities, including monitoring scheme; Successful completion of project activities for relevant project components, as verified by the MTR and TE. GIS	Risks: project fails to secure relevant authorities engagement and approval of the four Integrated Water management Plans in the four districts; local funding is insufficient for the implementation of the water management measures. Assumptions: Government has a keen interest to reform water sector, reduce water waste and land salinization in irrigated fields. Local investments are delivered as estimated.

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
							analysis of project intervention areas.	
	Indicator 13. Number of Water Users Groups in the 4 pilot districts capacitated to apply water saving irrigation technologies	Midterm: N/A EoP target: 4	The indicator is focused on the work with local water users, supporting their organization in Water Users Groups. The target was set conservatively, in order to be achievable. WUGs will be set up taking into consideration the water basin principles and management of irrigated areas around main irrigation systems e.g. Berzen Irrigation System in Deinau and Kranch Han yap in Darganata; Diyarbekir in Ruhubelent and Bo yap and Yartigala yap in Turkmenbashi. Targeted training, and coaching will be provided and technical assistance to	The project team will collect data on WUGs annually, with the support of Local State Committee on Water production departments.	Annually Reported in DO tab of the GEF PIR	Project Manager, project; Project Field Coordinators; Water Specialists; M&E Consultant	Project reports, field missions and interviews will be used to assess progress. Validation by midterm and final GEF evaluations.	Risks: Insufficient interest from the farmers/water users' side on participation in the project activities. Assumptions: Government has a keen interest to reform water sector, integrate IWRM and participatory approaches, facilitate WUGs are interested to mobilize themselves and participate in the decision making, reduce water waste and land salinization in irrigated fields.

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
			development of bank applications/farm business planning. The project will work with existing WUGs as well.					
	<p><u>Indicator 14.</u> Area (ha) of irrigated crops with increased resilience to salinization, as evidenced by:</p> <ul style="list-style-type: none"> • Percentage of soil salinity reduction • Percentage of water wastage at farm level • Soil productivity measured by humus content 	<p>Midterm target: Detailed methodology and approaches for resilient crops tested.</p> <p>EoP target:10,000 ha</p>	<p>This indicator focuses on the successful demonstration of crop resilience to salinization on 10,000 ha (Output 1.3/Act 1.3.1/1.3.3). Efficient water and crops resilience to salinity demonstrated initially on 100 ha will be replicated at 10% of the targeted 100,000 ha irrigated areas through, promotion of modern irrigation technologies, diversification of agricultural crops including: crop rotation, use of salt tolerant crops, agroforestry). Improvements in soil salinity (15%),</p>	<p>The project team will record the results of the tested methodology and approaches on 100 ha, in cooperation with the Agricultural Institutes in Dashoguz and Lebap.</p> <p>The project team will collect data from the field through the agreed methodologies with farmers and with the support of the local Production Departments in Dashoguz and Lebap, on the success of crop resilience techniques applied at 10,000 ha.</p>	Annually Reported in DO tab of the GEF PIR	Project Manager, project; Project Field Coordinators; Water Specialists; M&E Consultant	Project reports, field missions and interviews will be used to assess progress. Validation by midterm and final GEF evaluations. Project reports and documentation, e.g. annual reporting in PIR; Written agreements with Daikhan associations/daikhan farms and local authorities, including monitoring scheme; Successful completion of project activities for relevant project components, as verified by the MTR and TE.	<p>Risks: Insufficient interest and funding from the local authorities' farmers/water users' side on participation in the project activities.</p> <p>Assumptions: Government has a keen interest to reform water sector, integrate IWRM and participatory approaches, facilitate WUGs participation into the decision making, reduce water waste and land salinization in irrigated fields.</p>

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
			reduction of water wastage (15%) and slight increase in humus content are expected by EoP.					
	<u>Indicator 15 (GEF 7 Core indicator 6 Sub-indicator 6.1):</u> GHG emissions mitigated (tCO2-eq)	<p>Midterm target: No change (project outcomes and impacts not yet at stage where GHGs avoided/sequestered)</p> <p>EoP target: 2,028,250</p>	<p>This indicator is based on corresponding global-level GEF 7 indicators. This project indicator is designed to align with and feed into this global level reporting.</p> <p>The indicator represents GHG emissions avoided as a result of restored arable land (at 10,000 ha) and forestland (50,000 ha). The baseline is N/A (as the project implementation has not started yet). The midterm target is 0 as the project activities are not yet at a stage where GHG avoided/sequestered can be considered. The target is</p>	Based on calculations from the FAO EX-ACT tool, as follows: the project would work with land under perennial crops and improve it through agronomic resilient practices, nutrient management and more efficient water management (at 10,000 ha) which would not happen under the business as usual. In addition, 50,000 ha of moderately/severely degraded pasture land would be restored to a non-degraded state (which under business as usual would end up as severely degraded/abandoned. These two elements together produced the GHG benefits as documented in the FAO EX-ACT Tool.	Final PIR	Project manager	Field/plot surveys. Project reports. Updated GEF7 Core Indicator 6; validated by the final	<p>Risks: The project may fail to engage key partners in implementing the envisaged measures that will lead to the targeted reduction of GHG emissions.</p> <p>Assumptions: Per assumptions in EX-ACT tool</p> <p>- Project activities are implemented in the manner foreseen in the areas planned</p>

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
			calculated using FAO EX-ACT tool.					
	Indicator 16 (KM): Level of information necessary for improved irrigation water management at farm level considering the climate change impacts and knowledge regarding the necessary water requirements of the lakes and wetlands ;	<p>Midterm target: Detailed methodology and approaches.</p> <p>EoP Target Increased level of information on efficient and sustainable water use in agriculture and for natural ecosystems</p>	<p>This indicator is focusing on the level of knowledge and information baseline necessary to achieve results at outcome level; The targets have been considered achievable, and necessary to track progress:</p> <p>(i)Comprehensive inventory of water use patterns, water losses and the realistic water requirements in agriculture sector in the targeted areas (for 100,000 ha of irrigated areas) available to water managers and water users.</p> <p>(ii)Hydroclimatic scenarios and water economic models-informed Sustainable Water Management Recommendation</p>	Official data from the Ministry of Water Resources.	Annually Reported in DO tab of the GEF PIR (year 2)	Project Manager, Project Water Specialists M&E Consultant	Strengthened data base of the Ministry of Agriculture and Environment Protection and State Committee on Water Resource, and project data validated by the GEF MTR. Project reports and documentation, e.g. annual reporting in PIR;	<p>Risks: Lack of technical expertise; insufficient utilization of the generated knowledge.</p> <p>Assumptions: Project does not encounter critical risk that will derail activities; Relevant water management related data can be achieved cost-effectively at etrap/district level and farm levels.</p> <p>There is a stated and clear interest of the Government to improve water efficiency, facilitate consensus among multiple water users and reform water management sector.</p>

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
			<p>s for optimization of water allocation among multiple water users, approved by decision makers</p> <p>(iii)Water Management Plans covering 100,000 ha approved and under implementation.</p> <p>(iv)Researched water requirements for lakes, wetlands and riparian zones in Amudarya Basin (within Turkmenistan side), is completed and accessible to end users and water managers.</p>					
	<p><u>Indicator 17 (KM):</u> Existence of formal guidelines and methodology on LDN compliant land use planning and SLM measures applicable for practical improvements of land management, use of mineralized drainage water and</p>	<p>Midterm target: Detailed methodology and approaches.</p> <p>EoP Target (i)Methodology for setting up regional LDN targets approved by the MAEP, showcasing Lebap and Dashoguz experience (ii)Methodology for LDN compliant</p>	<p>This indicator focuses on the knowledge generation necessary to achieve scalable and sustainable results at outcome level, with the recognition that one important</p>	<p>Level of awareness and understanding increased as documented by project surveys, case studies, shared knowledge through different platforms and knowledge products</p>	<p>Annually Reported in DO tab of the GEF PIR starting mid term</p>	<p>Project Manager, project; KM Project Specialist; Project Field Coordinators; M&E Consultant</p>	<p>Official correspondence with MAEP validating the formal approval of project's deliverables; Interviews with stakeholders; project reports validated</p>	<p>Risks: The project may fail to mobilize the necessary technical expertise to adequately generate, disseminate capture and codify knowledge within the project.</p> <p>Assumption: There is local and international experience and expertise available and leveraged through the</p>

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
	restoration of saline lands	<p>Integrated Land Use Planning at etraps/district level approved by the MAEP, showcasing Dashoguz and Lebap experience</p> <p>(iii)Guidelines on the development of sustainable pastures and forest management plans, to achieve LDN, for local natural resources users approved by MAEP</p> <p>(iv)LDN compatible Integrated Land Use Planning GIS based Concept available to land use decision makers</p> <p>(v)Integrated Bio-saline Agricultural Model for Sustainable and Integrated Use of Mineralized Water Resources and salt-affected soils</p> <p>(vi)LDN Regional Workshop Proceedings Report entails an analysis of methodologies used by different countries during regional LDN target setting process.</p>	<p>barrier to the implementation of Land Degradation Neutrality is the lack of knowledge and understanding of the LDN concept and the approaches used in integrated land use planning and Sustainable Land Management (SLM). Targets achievement will measure KM and potential for sustainability and replication.</p>				through MTR and final evaluations.	<p>project; There is interest to apply SLM among natural resource users; there is a keen interest among countries in the region and others with similar arid climatic conditions to set sub-national targets and there is a desire to learn from more advanced countries and share best practices.</p>
	Indicator 18: Existence of capacity building events on EO datasets interpretation, LDN, SLM and integrated land	<p><i>Midterm Target:</i></p> <p>EO datasets interpretation guide and methodology (in relation to</p>	The indicator is intended to be an outcome level indicator that track results in	Level of awareness and understanding increased as documented by project surveys, case studies, shared	Annually Reported in DO tab of the GEF PIR	Project Manager, project; KM Project Specialist;	Official correspondence with MAEP validating the formal approval	Risks: The project may fail to mobilize the necessary technical expertise to adequately generate, disseminate capture and

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
	use planning for LDN working groups, decision makers and farmer groups	<p>interpretation of baseline information during the LDN target setting); training materials developed; 12 capacity building events delivered</p> <p><i>EoP Target</i></p> <p>(i)10 capacity building events on EO datasets interpretation to inform land degradation assessments: LDN (including on LDN target setting and monitoring) and Land use planning for decision makers at national and local levels</p> <p>(ii)8 capacity building events on SLM measures and sustainable agricultural practices and rural entrepreneurship</p> <p>(iii)8 training workshops for the Water user Groups (WUGs) on sustainable irrigation and water management</p> <p>(iv)4 training workshops on land-water legislation</p> <p>(v)5 Farmers Field Schools</p> <p>(vi)LDN Regional Workshop to share experience, generated knowledge, challenges</p>	<p>relation to capacity development activities for LDN target setting under Output 1.1. and SLM measures Output 1.3 and Output 1.4.</p> <p>The targets have been set at a reasonable number, deemed achievable with available resources.</p>	knowledge through different platforms and knowledge products	starting mid term	Project Field Coordinators; M&E Consultant	of project's deliverables; Interviews with stakeholders; project reports validated through MTR and final evaluations	<p>codify knowledge within the project.</p> <p>Assumption: There is local and international experience and expertise available and leveraged through the project; There is interest to apply SLM among natural resource users; there is a keen interest among countries in the region and others with similar arid climatic conditions to set sub-national targets and there is a desire to learn from more advanced countries and share best practices.</p>

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
		and opportunities in LDN regional target setting.						
Project Outcome 2	<u>Indicator 19 (GEF Core Indicator 1/Sub-indicator 1.1.):</u> Terrestrial protected areas created for Conservation and sustainable use (ha)	Midterm target: Flora and fauna Inventories and habitat mapping necessary for the preparatory work completed EoP Target: 60,000 ha	This indicator is based on corresponding global-level GEF 7 indicators. This project indicator is designed to align with and feed into Indicator 1. The target aims at increasing the coverage of existing KBAs/IBAs and otherwise unacknowledged important biodiversity hotspot threatened by agricultural practices and other developments. The target as well as locations were prioritized by MAEP representatives consulted at PPG stage. The two new proposed PAs areas encompasses: (i) Pitnyak upland and the heights of Altykarash, Zheldi	MAEP official data	Annually Reported in DO tab of the GEF PIR	Project Manager PAs specialists M&E Consultant	Updated government (MAEP) reports/ National communications to CBD Project evaluation reports; Field mission reports validated by final evaluation. GIS analysis of the project intervention areas. Project reports and documentation, e.g. annual reporting in PIR; Successful completion of project activities for relevant project components, as verified by the MTR and TE	Risks: Large scale reshuffling of government priorities and funding, with PAs less prominent on political agenda. Possible Covid-19 impacts on the national budget. Assumptions: No major negative impact on the availability of the state budget for the protection and management of new and existing PAs.

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
			and Muyger, part of the water areas of the Sultansanjar and Koshbulak reservoirs Pytnyak area on approx.40,000 ha and (ii) Lake Zengibaba-Zengibaba-Goyungirlan (KBA/IBA) area on approximately 20,000 ha.					
	<u>Indicator 20</u> (GEF Core Indicator 1/Sub-indicator 1.2): Terrestrial protected areas under improved management for conservation and sustainable use (ha)	<p>Midterm Target:</p> <p>Flora and fauna Inventories and habitat mapping necessary for the preparatory work completed)</p> <p>EoP Target: 1,077,554 ha</p>	<p>This indicator is based on corresponding global-level GEF 7 indicators.</p> <p>This project indicator is designed to align with and feed into Indicator 1.</p> <p>The target encompasses: the existing PAs under the project scope, as agreed with MAEP representatives at PPG stage: (i) Gaplanyr State Nature Reserve (275,735 ha) and its Sanctuaries: Sarygamish</p>	MAEP official data PAs management units interviews	Annually Reported in DO tab of the GEF PIR	Project Manager PAs specialists M&E Consultant	Updated government reports/ National communications to UNCBD Project evaluation reports; Field mission reports; METT scorecards validated by the final evaluation;	<p>Risks: Expected increase in the PAs management effectiveness is not achieved due to staff turnover and decreased investments into PAs infrastructure.</p> <p>Assumptions: No major negative impact on the availability of the state budget for the protection and management of new and existing PAs.</p>

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
			Sanctuary (541,466 ha) and Shasenem Sanctuary (109,002 ha); (ii) Amudarya State Nature Reserve (48,351 ha) and its Kelif Sanctuary (103,000 ha).					
	<u>Indicator 21</u> : Change in the capacity of the management of key Protected Areas to implement effective biodiversity conservation and sustainable management measures	<p>Midterm target: <u>Gaplangyr</u> State Nature Reserve (METT Score: 58) <u>Amudarya</u> Biosphere Reserve (METT Score: 61)</p> <p>EoP Target: <u>Gaplangyr</u> State Nature Reserve (METT Score: 64) <u>Amudarya</u> Biosphere Reserve (METT Score: 67)</p>	The target values have been projected based on the analysis of the weaknesses in the METT scores for each PA, based on the analysis of the individual METT score questions for each PA. There are some areas of weakness that the project will have little or no influence on, while there are other areas where the project should reasonably improve the METT scores of the involved PAs. The METT scores should be annually re-	Field observations; PAs official reports	Inception, Midterm, End of project	Project Manager; PAs specialists M&E Consultant	Project reports and METT validated by MTR and final evaluations.	<p>Risks: Expected increase in the PAs management effectiveness is not achieved due to staff turnover and decreased investments into PAs infrastructure.</p> <p>Assumptions: Interest from the central government, private sectors and farmers in biodiversity conservation; No major negative impacts (e.g. Covid-19) on the availability of the state budget for the protection and management of new and existing PAs.</p>

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
			<p>assessed ⁷¹ and validated during midterm and final evaluation.</p> <p>The project activities aim to increase METT scores (as much as possible) for METT questions 2,3,5,7b,7c, 9, 11, 13, 14, 18, 20, 21, 21a, 21b, 21c, 22, 24a,24b, 24c, 25, 27, 28, 30. (Output 2.1- Output 2.2 and Output 2.3).</p>					
	<p><u>Indicator 22:</u> Stable status/positive changes in the population of globally significant biodiversity at the new designated PA.</p> <ul style="list-style-type: none"> • Great grebe (<i>Podiceps cristatus</i>) • Great pelican (<i>Pelecanus onocrotalus</i>) • Red crested pochard (<i>Netta rufina</i>) • Great cormorant (<i>Phalacrocorax carbo</i>) 	<p>Baseline to be established at inception</p> <p>Midterm Target: Non-deterioration of baseline</p> <p>EoP Targets: Increase relative to baseline</p> <p><u>Pytniak Uplands (proposed IUCN IV category- Sanctuary 40 ha)</u></p> <ul style="list-style-type: none"> • Great grebe (<i>Podiceps cristatus</i>) 	<p>These species have been selected to serve as indicators based on several considerations: (i) they will be positively affected by the project interventions; (ii) are considered keystone species so that a positive change in species population reflects a positive change in the</p>	Field observations; MAEP/ PAs official reports	Annually Reported in DO tab of the GEF PIR	Project Manager; PAs specialists M&E Consultant	Project reports and METT validated by MTR and final evaluations.	<p>Risks: Major reshuffling of government priorities in view of Covid 19, may redirect attention and resources away from PAs system expansion and strengthening (as listed in NBSAP).</p> <p>Assumptions: Project lifetime is sufficient to allow impacts to be generated and monitored; New threats do not emerge.</p>

⁷¹ During the project implementation, revising these METT scores at the end of the year is recommended, and assessment should be done as realistically as possible (e.g. weakness need to be highlighted in order to sharpen the focus of the project’s support). GEF evaluations will validate the METT scores.

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
	<ul style="list-style-type: none"> • Little cormorant (<i>Phalacrocorax pigmaeus</i>) • White egret (<i>Egretta alba</i>) • Grey heron (<i>Ardea cynerea</i>) • Red heron (<i>Ardea purpurea</i>) 	<ul style="list-style-type: none"> • Great pelican (<i>Pelecanus onocrotalus</i>) • Red crested pochard (<i>Netta rufina</i>) • Great cormorant (<i>Phalacrocorax carbo</i>) • Little cormorant (<i>Phalacrocorax pigmaeus</i>) • White egret (<i>Egretta alba</i>) • Grey heron (<i>Ardea cynerea</i>) • Red heron (<i>Ardea purpurea</i>) <p><u>Lake Zengibaba and Tarymgaya Upland ((proposed IUCN IV category- Sanctuary 20 ha)</u></p> <ul style="list-style-type: none"> • Great pelican (<i>Pelecanus onocrotalus</i>) • Saker falcon (<i>Falco cherrug</i>) • Golden eagle (<i>Aquila chrysaetos</i>) • Black Vulture (<i>Aegypius monachus</i>) 	<p>surrounding habitat; (iii) population can be reasonably monitored over multiple years, and (iv) there are global, or national Red List or endangered species or endemic or “iconic” for the country or the region. The project is aiming at minimizing threats to the newly designed PA, and if threats are minimized, population increases among indicator species can be documented within a few years, and therefore the project target is designed to set the project ambitions at contributing to an increase in the targeted indicator species populations.</p>					

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
	<p><u>Indicator 23</u> : Stable status/positive changes in the population of globally significant biodiversity indicator species in the existent targeted PAs</p> <ul style="list-style-type: none"> • Argali (<i>Ovis vignei</i>) • Kulan (<i>Equus hemionus kulan</i>) • Goiterred gazelle (<i>Gazella subgutturosa</i>) • Bukhara deer (<i>Cervus elaphus bactrianus</i>) • Houbara bustard (<i>Chlamydotis undulata</i>) • Dalmatian pelican (<i>Pelecanus crispus</i>) • Great white pelican (<i>Pelecanus onocrotalus</i>) • Saker falcon (<i>Falco cherrug</i>) • Golden eagle (<i>Aquila chrysaetos</i>) • Yellow eyed pigeon (<i>Columba eversmanni</i>) • Otter (<i>lutra lutra</i>) 	<p>Midterm Target: As indicated in the METT scorecards</p> <p>EoP Target: As indicated in the METT scorecards</p>	<p>These species have been selected based on the same criteria (as above); their monitoring is ongoing in the existing PAs. The targets have been identified by the PAs staff and coordinated with the envisaged project activities.</p> <p>Fauna species: esp. migratory species, are subject to significant natural stochastic variations at any given monitoring site, and the target is based on the average over a rolling 5-year period in order to minimize the effect of natural stochastic variations on monitoring data. If threats are minimized, population increases among fauna species can be documented within a few years.</p>	<p>Field observations; PAs official reports;</p>	<p>Annually Reported in DO tab of the GEF PIR</p>	<p>Project Manager; PAs specialists M&E Consultant</p>	<p>Project reports validated by MTR and final evaluations.</p>	<p>Risks: Major climate change impacts and water deficits negatively affects species and habitats; PAs not fully capacitated to implement species centered conservation activities.</p> <p>Assumptions: Project lifetime is sufficient to allow impacts to be generated and monitored; New threats do not emerge.</p>

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
	<p>Indicator 24 : (KM): Updated and accessible environmental data on IBAs/KBAs status, species and habitats, improved data base available for PAs managers and environmental inspectors; Conservation experience and knowledge on key species and critical ecosystems shared through seminars, workshops, community engagement, conferences, through S-S exchanges and knowledge products in the region; Assessment of ecosystem services and ecotourism potential.</p>	<p>Midterm Target: Environmental data collected and methodologies elaborated. Assessments of ecological and cultural values; economic assessment of ecotourism potential in new and existing PAs.</p> <p>EoP Target: <u>-Gap Analysis</u> Report on the IBAs/KBAs Ecological Integrity, Analysis of Anthropogenic Threats and Recommendations to Decision Makers <u>-Data base</u> on key species and habitats in the existing PAs and KBAs/IBAs under the project scope <u>strengthened</u> and accessible; PAs managers have a better access to environmental information and improved based for research and knowledge management <u>-Study</u> on the economic potential of nature based tourism (ecotourism) activities</p>	<p>Achievement of the outcome will entail the level of information implied in the target.</p> <p>This indicator is an enabler of Global Environmental benefits under Component 3: it is focusing on the knowledge generation and sufficient information on key biodiversity areas and indicator species, for effectively and sustainably managing the PAs and KBAs/IBAs.</p>	MAEP reports, data bases; project website; PAs management units reports.	Annually Reported in DO tab of the GEF PIR	Project Manager; PAs specialists M&E Consultant	Project reports validated by MTR and final evaluations. GIS analysis of project intervention areas.	<p>Risks: The project may fail to leverage the necessary technical expertise needed to conduct comprehensive inventories.</p> <p>Assumptions: No major risk to project activities emerge. PAs inventories implemented as planned. Co-financing stable.</p>

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
		<p>in buffer and production zones around PAs, KBAs/IBAs available to decision makers and local communities</p> <p>- at least <u>2 PES mechanisms</u> established under the Management and Business Plans of both targeted PAs.</p>						
	<p><u>Indicator 25</u>: Existence of capacity building events and information sharing, for environmental inspectors and border officials, PAs staff in Biodiversity management trainings and local community training on eco-tourism and arts and crafts;</p>	<p>Midterm target:</p> <p>-8 trainings delivered to environmental officials and PAs staff</p> <p>-3trainings delivered to local communities</p> <p>EoP Target:</p> <p><u>15 trainings</u> and outreach events (30 % female participants)</p> <p>-<u>2 cross border study</u> visits for joint environmental programming and work on wild ungulates migration corridors (Turkmenistan-Uzbekistan)</p>	<p>The targets have been established at PPG stage based on the previous experience of MAEP, and considered sufficient to cover some of the main capacity gaps highlighted in the METT. A training Needs Assessment will be conducted at the inception stage and the frequency of trainings as well as training topics will be further refined.</p>	MAEP and PAs reports;	Annually Reported in DO tab of the GEF PIR	Project Manager; PAs specialists M&E Consultant	Formal MAEP correspondence; Workshop evaluation forms; Monitoring via annual project reporting (PIRs) verification at MTR and final project evaluation; project reports; workshop proceedings;	<p>Risks: Staff turnover; the project may fail to involve PAs staff, border police, environment inspectors.</p> <p>Assumptions: No major risk to project activities emerge; local communities are interested to participate in project activities</p>
	<p><u>Indicator 26 (GEF Core indicator 4, Sub-indicator 4.1)</u>: Local communities supported</p>	<p>5 agreements (covering 292,607 ha) forged with local authorities and local communities</p>	<p>The target is focusing on improved practices around</p>	MAEP reports, field interviews.	Annually Reported in DO tab	Project Manager; PAs	Monitoring via annual project reporting (PIRs) verification at	<p>Risks: The project may fail to involve the local communities in the PAs management; hostilities</p>

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
	agreements on protected areas management, PAs buffer zones and ecological corridors.	at sites around endangered IBAs/KBAs as follows: -3 local community endorsed ecological corridors around Amudarya State Nature Reserve (total area of 79,906 ha) ⁷² -Community based sustainable pasture management agreement and biodiversity conservation at Tallymerjen IBA/KBA (167,701ha) -Community based sustainable pasture management and Tarymgaya biodiversity hotspots (45,000 ha) agreements and biodiversity conservation around Goyungirlan IBA connected to Zengibaba	KBAs/IBAs benefiting biodiversity; the successful involvement of local communities in conservation activities represented by agreements on ecological corridors for safe passage of the wildlife and expansion of their feeding base, sustainable pasture management that does not affect biodiversity. Only half of this area is counted under the GEF Core Indicator 4.1 (Annex 9) in order to avoid possible overlaps with the pasture areas under Indicator 11 (under Output 1.4) – the latter, also counted		of the GEF PIR	specialists M&E Consultant	MTR and final project evaluation; project reports; workshop proceedings. Project reports and documentation, e.g. annual reporting in PIR; Written agreements with Daikhan associations/daikhan farms Successful completion of project activities for relevant project components, as verified by the MTR and TE.	between local communities and wildlife may occur or intensify. Assumptions: Local communities are aware of biodiversity values and are interested to support biodiversity friendly agricultural practices in buffer zones and are open to cooperation with PAs staff in creation of ecological corridors and implementation of sustainable land practices that benefit biodiversity in the PAs and KBAs/IBAs surroundings.

- ⁷² Outside the perimeter of Amudarya State Nature Reserve on **19,988 ha** (1-4 km wide) along the Pitnyak-Kabakly-Nargiz route, the area is proposed in order to preserve the migration of Tugai deer (*Cervus elaphus bactrianus*) and the ecological integrity of tugai habitats. Assisted natural regeneration of tugai, at Kabakly site will be supported by the project (within the framework of Output 1.2) to patch up tugai corridors.
- Along Karakum river an ecological corridor of **9,482 ha**, 2-2.5 km wide along Amudarya – Karakum river – Kelif route and
- Further from Kelif to Yagty-Yol in the vicinity of Mary (**50,436 ha**) to protect the habitat of Amudarya pheasant and other key bird species. The project will prepare the necessary participatory planning and consultations with local communities, GIS supported habitat mapping and preparatory documents, for final review and approval by the Ministry of Agriculture and Environmental Protection.

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
			under GEF Core Indicator 4.1).					
	<u>Indicator 27:</u> Farmers /producers' net income (differentiated by gender) from sustainable products (livestock, hay, seeds, dried fruits, medicinal plants, handicrafts) resulted from biodiversity friendly agricultural practices in PA buffer and production zones	Baseline to be determined in the first year of project implementation. Midterm target: Net Income men: \$X + 10% Net income women: \$X + 10% Participating farmers show at least 10% increase based on year 1 estimate. EoP Target: Net Income men: \$X + 20% Net income women: \$X + 20% Participating farmers show 20% increase based on year 1 estimate.	This is a conservative percentage, as income generation from recommended SLM measures will likely provide more benefits (according to past projects in Turkmenistan and other CA countries, recorded on WOCAT).	Local daikhan associations/farmers associations data; Field surveys; Bilateral interviews with Farmers; UNCCD/WOCAT knowledge platform project contribution (recorded socio-economic benefits);	At the beginning, midterm and end of project.	Project Manager; PAs specialists M&E Consultant	Monitoring via annual project reporting (PIRs) verification at MTR and final project evaluation; monitoring schemes introduced in the Grant mechanism reporting and monitoring; project reports; workshop proceedings.	Risks: Socio-economic benefits may fail to materialize, due to lack of appropriate SLM implementation. Assumptions: No major risk to project activities emerge; climate change within the predictable parameters; co-financing stable.
International knowledge sharing and cooperation for the Aral Sea Basin Outcome 3: Strengthened and better-	<u>Indicator 28 (KM):</u> Number of events strengthening national capacity to participate into regional cooperation programmes in the Aral Sea Basin	MidTerm target 2 Water Diplomacy Seminars 1 IFAS meeting attended EoP Target 5 Water Diplomacy Seminars supported by IFAS and the UN Regional Centre for Preventive Diplomacy	This indicator focuses on the technical capacity strengthening opportunities to be attended by the of the national officials in the IFAS	IFAS reports MAEP reports Bilateral interviews	Annually Reported in DO tab of the GEF PIR	Project Manager; KM Specialist; M&E Consultant	Monitoring via PIRs (Annual project reports) validated by MTR and midterms and final evaluations; project reports; workshop proceedings; various questionnaires and interviews	Risks: N/A Assumptions: No major obstacles to project implementation

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
informed engagement of Turkmenistan in implementation of regional cooperation under the International Fund for Saving the Aral Sea (IFAS) for improved management and restoration of Aral basin land and water resources		for Central Asia (UNRCCA) 3 IFAS meetings attended by Turkmenistan delegation contributing to IFAs decisions					with stakeholders;	
	<u>Indicator 29 (KM)</u> Number of national priorities embedded in IFAS led programmes and initiatives, supported by the project.	Midterm target 2 project supported priorities put forward by Turkmenistan and embedded in the regional programmes EoP target 5 national priorities embedded in International and regional initiatives put forward by Turkmenistan to address problems of the Aral Sea Basin supported by the project.		IFAS reports MAEP reports Bilateral interviews	Annually Reported in DO tab of the GEF PIR	Project Manager; KM Specialist; M&E Consultant	Monitoring via PIRs (Annual project reports) validated by MTR and midterms and final evaluations; project reports; workshop proceedings; various questionnaires and interviews with stakeholders;	Risks: The project may fail to engage relevant expertise to support the national priorities put forwards by Turkmenistan. Assumptions: No major obstacles or regional disagreements will be impeding project activities.
	<u>Indicator 30.</u> Number of awareness raising events and targeted KM products on water, LD and BD issues in the Aral Sea	Midterm Target -Communication Plan finalized, communications needs of the key stakeholders identifies and Communication Plan refined and under implementation	The indicator is intended to be an outcome level indicator that tracks results under Outcome 3.1. The targets have been set at a reasonable number, deemed achievable with	The project will keep record of the events. WOCAT entries (showcasing project good practices) Adaptation Fund Project Platform MAEP records	Annually Reported in DO tab of the GEF PIR	Project Manager; KM Specialist; M&E Consultant	Monitoring via PIRs (Annual project reports) validated by MTR and midterms and final evaluations; project reports; workshop proceedings; various questionnaires	Risks: Lack of interest to participate in the project planned training and awareness sessions; limited project outreach to the local natural resources living in more remote areas. Assumptions: Active participation of stakeholders in project

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
		<p>-10 Awareness raising events</p> <p>-Radio Talk Shows</p> <p>-Available LDN/SLM/biodiversity training/information materials</p> <p>EoP Target</p> <p>-20 awareness raising events</p> <p>-20 Radio Talk Shows for farmers with a segment for women farmers</p> <p><u>KM Products</u></p> <ul style="list-style-type: none"> • Available LDN/SLM/biodiversity training/information materials and country-specific knowledge shared on UNCCD/WOCAT platform; CACILM II platform; CAREC platform; Adaptation Fund project platform • Project-video Documentary • Analytical technical reports on integrated water-land resources to inform regional programming under IFAs • Final report with monitored and 	available resources.	Press clippings/media monitoring service			and interviews with stakeholders;	activities; full support of Union of Industrialists and Entrepreneurs, MAEP extension service and interest in training topics. No major obstacles to project implementation;

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
		evaluated project results <ul style="list-style-type: none"> Project Sustainability Strategy presented and endorsed by project Board and MAEP 						
Component 4 Monitoring and Evaluation	<u>Indicator 31</u> Monitoring and Evaluation reports Evaluative knowledge available to project partners	Midterm evaluation report Final evaluation report Annual PIRs	GEF/UNDP M&E requirements		Mid term End of project Annually	Project team M&E consultant	Project reports	Risks: The project may fail to engage relevant technical M&E expertise. Assumptions: No major obstacles or regional disagreements will be impeding project activities.
Cross-cutting Gender	Consistency of project gender mainstreaming approach with project plans (Please refer to the Gender Action Plan and indicators)	Gender mainstreaming carried out during project implementation, as indicated by: <ol style="list-style-type: none"> Project Board and local stakeholder working groups set-up by the project have gender balance and/or include a gender expert. Policies, laws, and regulations amended with project support include gender perspectives, as relevant Project events and activities (e.g. 	Target is based on the project's planned gender mainstreaming activities	Project reports	Reported in DO tab of the GEF PIR (annually)	<i>Project manager</i> <i>Gender consultant</i> <i>M&E consultant</i>	Monitoring via PIRs (annual project reports) validated by MTR and final evaluation.	Assumptions: All relevant stakeholders support or are in accordance with gender mainstreaming efforts undertaken by the project. There are no major risks to project activities.

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods ⁶⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
		<p>trainings) promote gender balance among invited participants, as feasible</p> <p>d. Project technical training activities proactively recruit participants to achieve gender balance</p> <p>e. Project education and awareness activities are developed and carried out incorporating gender perspectives, as relevant</p> <p>Gender disaggregated indicators are reported on annually</p>						

Annex 9: GEF Core Indicators at Baseline

Core Indicator 1	Terrestrial protected areas created or under improved management for conservation and sustainable use					(Hectares)
	Hectares (1.1+1.2)					
	Expected			Achieved		
	PIF stage	Endorsement		MTR	TE	
	594,423	1,137,554				
Indicator 1.1	Terrestrial protected areas newly created					
Name of Protected Area	WDPA ID	IUCN category	Hectares			
			Expected			Achieved
			PIF stage	Endorsement	MTR	TE
Pitnyak Sanctuary (Output 2.2)		IV Habitat/Species Management Area		40,000		
Zengibaba-Goyungirlan Sanctuary		IV Habitat/Species Management Area		20,000		
		Sum	50,000	60,000		
Indicator 1.2	Terrestrial protected areas under improved management effectiveness					
Name of Protected Area	WDPA ID	IUCN category	Hectares	METT Score		
				Baseline		Achieved
				Endorsement	MTR	TE
Gaplaňgyr State Nature Reserve		Ia Strict Nature Reserve;	275,735	53		
Sarygamysh State Nature Sanctuary (part of Gaplangyr State Nature Reserve)		IV Habitat/Species Management Area	541,466	N/A ⁷³		
Shasenem State Nature Sanctuary (part of Gaplangyr State Nature Reserve)		IV Habitat/Species Management Area	109,002	N/A		
Amu Darya State Nature Reserve		Ia Strict Nature Reserve	48,351	56		

⁷³Sanctuaries are under the main PA administrations (i.e. Gaplangyr State Nature Reserve includes Sarygamish and Shasenem Sanctuaries; and Amudarya State Nature Reserve includes Kelif Sanctuary) and these sanctuaries do not have distinct management units, therefore these are grouped under the two main PAs METT.

Kelif State Nature Sanctuary (part of Amudarya State Nature Reserve)			103,000		N/A		
Repetek Biosphere State Reserve		Ia Strict Nature Reserve			N/A ⁷⁴		
Koytendag State Nature Reserve		Ia Strict Nature Reserve			N/A ⁷⁵		
Pitnyakskiy zakaznik of the Amudarinskiy zapovednik		IV Habitat/Species Management Area			N/A ⁷⁶		
		Sum	1,077,554				
Core Indicator 2	Marine protected areas created or under improved management for conservation and sustainable use						(Hectares)
	Hectares (2.1+2.2)						
	Expected			Achieved			
	PIF stage	Endorsement		MTR	TE		
Indicator 2.1	Marine protected areas newly created						
Name of Protected Area	WDPA ID	IUCN category	Hectares				
			PIF stage	Expected Endorsement		MTR	Achieved TE
		(select)					
		(select)					
		Sum					
Indicator 2.2	Marine protected areas under improved management effectiveness						
Name of Protected Area	WDPA ID	IUCN category	Hectares	METT Score			
				PIF stage	Baseline Endorsement		MTR
		(select)					
		(select)					
		Sum					
Core Indicator 3	Area of land restored						(Hectares)

⁷⁴Repetek is not prioritized under the Project (please see Minute of the meeting with the ministry counterparts/ Annex 12 Justification on PAs prioritization).

⁷⁵ Koytendag is not prioritized under the Project (please see please see Minute of the meeting with the ministry counterparts Annex 12 Justification on PAs prioritization).

⁷⁶This PA does not exist, the Ministry of Agriculture and Environment Protection does not have any record of such a PA or related dossier. The area however is deemed important by the MAEP and Pytniak Upland is prioritized under the project focus to be designated as new PA.

		Hectares (3.1+3.2+3.3+3.4)			
		Expected		Achieved	
		PIF stage	Endorsement	MTR	TE
		60,000	60,000		
Indicator 3.1	Area of degraded agricultural land restored				
		Hectares			
		Expected		Achieved	
		PIF stage	Endorsement	MTR	TE
		4,700	4,700		
Indicator 3.2	Area of forest and forest land restored				
		Hectares			
		Expected		Achieved	
		PIF stage	Endorsement	MTR	TE
		5,300	5,300		
Indicator 3.3	Area of natural grass and shrublands restored				
		Hectares			
		Expected		Achieved	
		PIF stage	Endorsement	MTR	TE
		50,000	50,000		
Indicator 3.4	Area of wetlands (including estuaries, mangroves) restored				
		Hectares			
		Expected		Achieved	
		PIF stage	Endorsement	MTR	TE
Core Indicator 4	Area of landscapes under improved practices (hectares; excluding protected areas)				
		Hectares (4.1+4.2+4.3+4.4)			
		Expected		Expected	
		PIF stage	Endorsement	MTR	TE
		760,000	746,303		
Indicator 4.1	Area of landscapes under improved management to benefit biodiversity				
		Hectares			
		Expected		Achieved	
		PIF stage	Endorsement	MTR	TE
		600,000	646,303		
Indicator 4.2	Area of landscapes that meet national or international third-party certification that incorporates biodiversity considerations				
Third party certification(s):		Hectares			
		Expected		Achieved	
		PIF stage	Endorsement	MTR	TE

Indicator 4.3	Area of landscapes under sustainable land management in production systems				
			Hectares		
			Expected	Achieved	
		PIF stage	Endorsement	MTR	TE
		160,000	100,000		
Indicator 4.4	Area of High Conservation Value Forest (HCVF) loss avoided				
Include documentation that justifies HCVF			Hectares		
			Expected	Achieved	
		PIF stage	Endorsement	MTR	TE
Core Indicator 5	Area of marine habitat under improved practices to benefit biodiversity				(Hectares)
Indicator 5.1	Number of fisheries that meet national or international third-party certification that incorporates biodiversity considerations				
Third party certification(s):			Number		
			Expected	Achieved	
		PIF stage	Endorsement	MTR	TE
Indicator 5.2	Number of large marine ecosystems (LMEs) with reduced pollution and hypoxial				
			Number		
			Expected	Achieved	
		PIF stage	Endorsement	MTR	TE
Indicator 5.3	Amount of Marine Litter Avoided				
			Metric Tons		
			Expected	Achieved	
		PIF stage	Endorsement	MTR	TE
Core Indicator 6	Greenhouse gas emission mitigated				(Metric tons of CO₂e)
			Expected metric tons of CO ₂ e (6.1+6.2)		
		PIF stage	Endorsement	MTR	TE
		Expected CO ₂ e (direct)	2,028,250	2,028,250	
		Expected CO ₂ e (indirect)			
Indicator 6.1	Carbon sequestered or emissions avoided in the AFOLU sector				
			Expected metric tons of CO ₂ e		
		PIF stage	Endorsement	MTR	TE
		Expected CO ₂ e (direct)	2,028,250	2,028,250	
		Expected CO ₂ e (indirect)			
		Anticipated start year of accounting	2024	2024	

	Duration of accounting	15	15		
Indicator 6.2	Emissions avoided Outside AFOLU				
			Expected metric tons of CO ₂ e		
			Expected	Achieved	
		PIF stage	Endorsement	MTR	TE
		Expected CO ₂ e (direct)			
		Expected CO ₂ e (indirect)			
		Anticipated start year of accounting			
		Duration of accounting			
Indicator 6.3	Energy saved				
			MJ		
			Expected	Achieved	
		PIF stage	Endorsement	MTR	TE
Indicator 6.4	Increase in installed renewable energy capacity per technology				
		Technology	Capacity (MW)		
			Expected	Achieved	
		(select)	PIF stage	Endorsement	MTR TE
		(select)			
Core Indicator 7	Number of shared water ecosystems (fresh or marine) under new or improved cooperative management				
	(Number)				
Indicator 7.1	Level of Transboundary Diagnostic Analysis and Strategic Action Program (TDA/SAP) formulation and implementation				
		Shared water ecosystem	Rating (scale 1-4)		
			PIF stage	Endorsement	MTR TE
Indicator 7.2	Level of Regional Legal Agreements and Regional Management Institutions to support its implementation				
		Shared water ecosystem	Rating (scale 1-4)		
			PIF stage	Endorsement	MTR TE
Indicator 7.3	Level of National/Local reforms and active participation of Inter-Ministerial Committees				
		Shared water ecosystem	Rating (scale 1-4)		
			PIF stage	Endorsement	MTR TE
Indicator 7.4	Level of engagement in IWLEARN through participation and delivery of key products				
		Shared water ecosystem	Rating (scale 1-4)		
			PIF stage	Rating	Rating
			Endorsement	MTR	TE
Core Indicator 8	Globally over-exploited fisheries Moved to more sustainable levels				
	(Metric Tons)				

Fishery Details			Metric Tons			
			PIF stage	Endorsement		MTR
Core Indicator 9			Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products			(Metric Tons)
			Metric Tons (9.1+9.2+9.3)			
			Expected		Achieved	
			PIF stage	PIF stage	MTR	TE
Indicator 9.1			Solid and liquid Persistent Organic Pollutants (POPs) removed or disposed (POPs type)			
POPs type			Metric Tons			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
(select)	(select)	(select)				
(select)	(select)	(select)				
(select)	(select)	(select)				
Indicator 9.2			Quantity of mercury reduced			
			Metric Tons			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 9.3			Hydrochlorofluorocarbons (HCFC) Reduced/Phased out			
			Metric Tons			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 9.4			Number of countries with legislation and policy implemented to control chemicals and waste			
			Number of Countries			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 9.5			Number of low-chemical/non-chemical systems implemented particularly in food production, manufacturing and cities			
Technology			Number			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 9.6			Quantity of POPs/Mercury containing materials and products directly avoided			
			Metric Tons			
			Expected		Achieved	
			PIF stage	Endorsement	PIF stage	Endorsement

Core Indicator 10	Reduction, avoidance of emissions of POPs to air from point and non-point sources					(grams of toxic equivalent gTEQ)
Indicator 10.1	Number of countries with legislation and policy implemented to control emissions of POPs to air					
			Number of Countries			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 10.2	Number of emission control technologies/practices implemented					
			Number			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Core Indicator 11	Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment					(Number)
			Number			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
		Female	2,500	3,045		
		Male	2,500	7,105		
		Total	5,000	10,150		

Annex 10: *GEF PA Management Effectiveness Tacking Tool / METT (please see as a separate Attachment)*

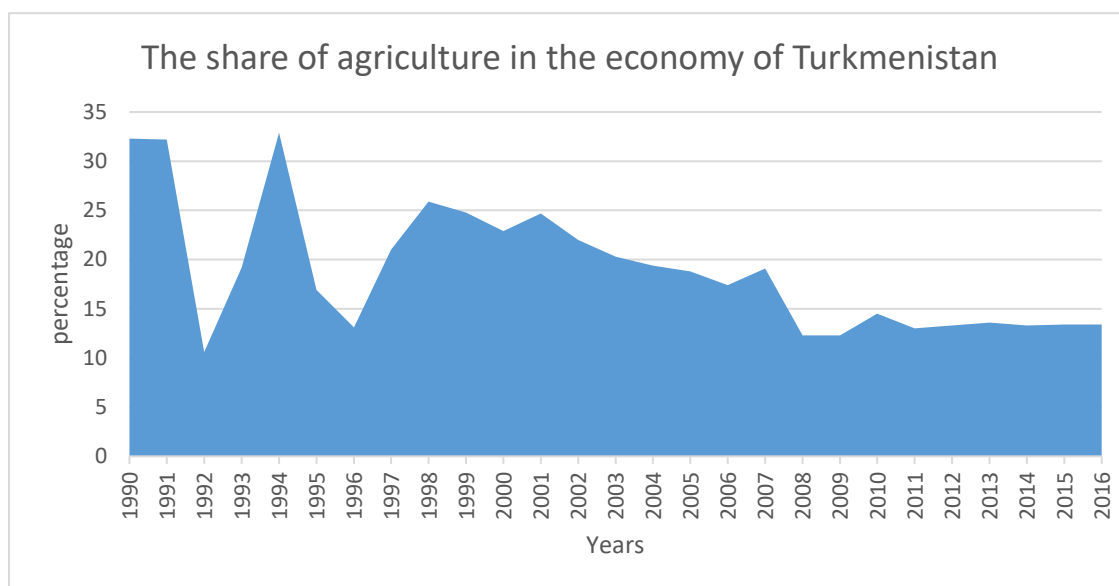
I. RESTRUCTURING AGRICULTURE IN TURKMENISTAN

The work on the analysis of agricultural restructuring in the country was carried out in accordance with the methodology proposed by IAMO [*Experience of agricultural restructuring in Turkmenistan. Stanislav Aganov, Yolbars Kepbanov, Kurbanmurat Ovezmuradov. DISCUSSION PAPER NO. 158, 2016*]. This study contains statistical information on agriculture for the period from 1992 to 2013. The work used official sources of information (statistical yearbooks, collections of legislative acts, etc.), materials (reports / presentations) of UNDP, FAO and other international organizations, studies / reports of foreign and domestic experts, etc. We also used the reporting materials of the national consultant of the FAO project on the preparation of the background document "Review of the Progress with Food and Agriculture Development in Turkmenistan and Challenges for the Future" [*M. Nepesov, 2017*]. The following are major excerpts from the above works.

According to the Decree of the President of Turkmenistan No. 12446 "On State Support of Small and Medium-sized Businesses" dated July 20, 2012, investments in recent years have been directed to the creation and development of small and medium-sized enterprises and industries, the organization and support of daikhan farms.

The conceptual foundations of reforms in the country's agriculture, formulated by the first President of Turkmenistan S.A. Niyazov and the legislative framework in force at that time, on the one hand, contributed to the formation and development of initiatives in the countryside through private and / or leased land use. But on the other hand, there was a reorganization of collective and state farms and the formation of daikhan (peasant) associations on their basis. These new associations were completely controlled by the state, and the land transferred to ownership or lease was under their jurisdiction. As a rule, land for commercial production was allocated far from settlements and often required significant funds for construction, irrigation, planning and other activities. That is, farmers' associations simply got rid of inconvenient lands.

The share of agriculture in Turkmenistan in the country's economy:



According to the State Statistics Committee of Turkmenistan data

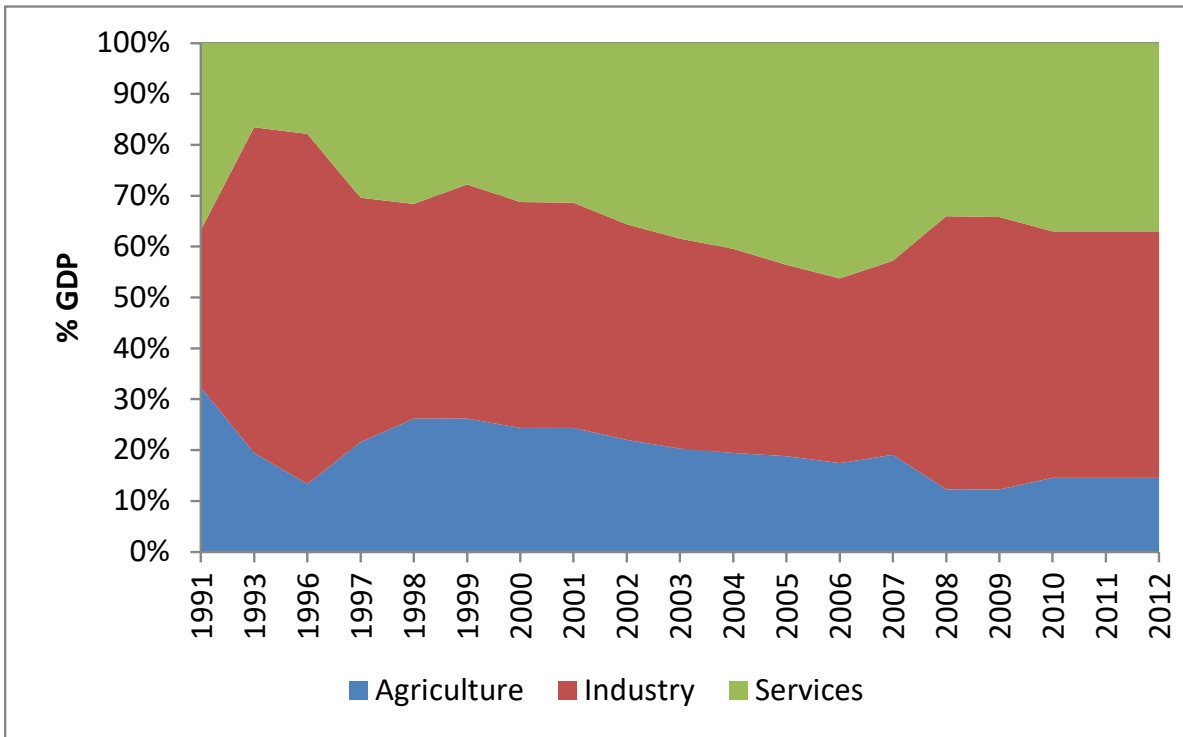
In recent years, we have seen a stable share of agriculture, just over 10%.

The **following stages** can be distinguished, chronologically reflecting the development of the country's agricultural sector:

- 1990-1992 - is a preliminary period when the need for reforming the agrarian sector was ripe and constitutional and fundamental legislative foundations were laid.
- 1993-1997 - active development of land and water reforms, time of trial and error in the agricultural sector.
- 1998-2014 - a shift in macroeconomic interests towards the production and export of natural gas; minor adjustments to the legislative framework in the field of agriculture.
- 2015 - present - development of new organizational measures to enhance crop production with the aim of import substitution and the possibility of exporting crop products, as well as stimulating the development of agriculture through concessional

lending (Decree of the President of Turkmenistan No. 942 dated 12 October 2018 on Financial Support of Agricultural Producers of the Country).

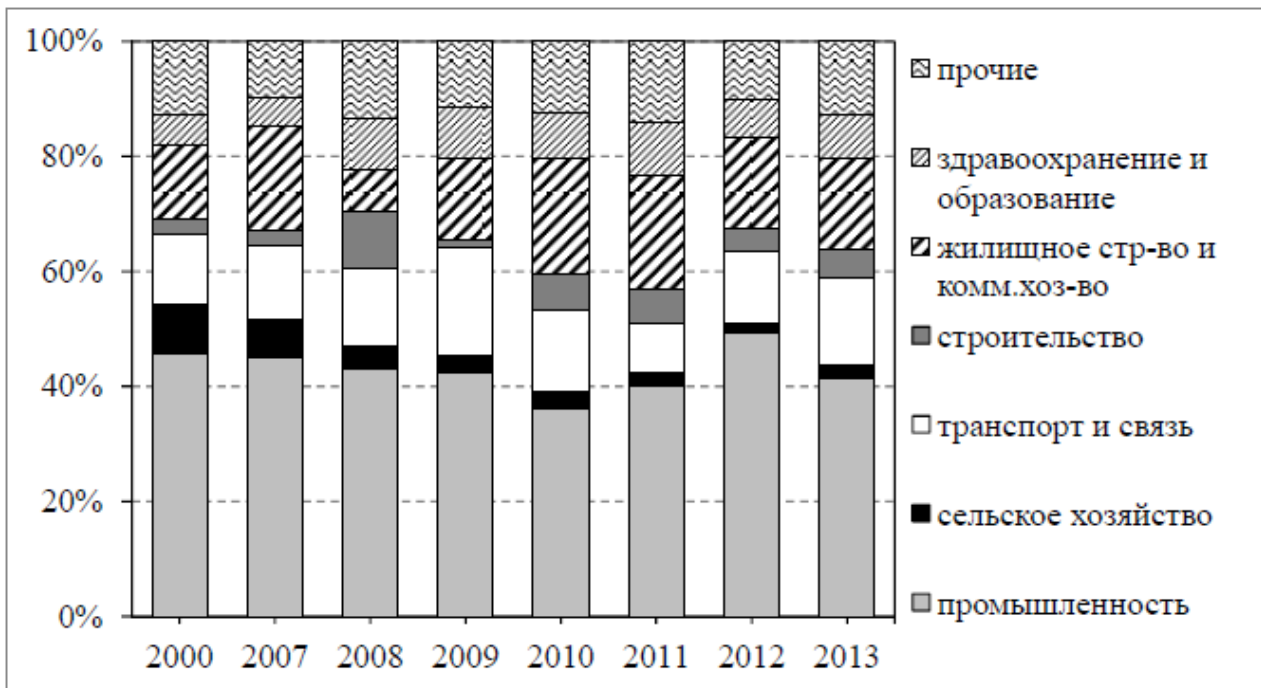
Three consolidated components can be distinguished in the structure of Turkmenistan's GDP - industrial production, including oil and gas industries; service sector, including trade; and agriculture. The distribution of these components for the period up to 2012 can be observed according to the State Statistics Committee of the country:



According to the official website of the State Statistics Committee of Turkmenistan www.stat.gov.tm

The place of agriculture (30% during the Soviet era) is currently at a level of just over 10%. Typical peaks were observed in 1998 (the result of primary reforms) and small in 2006-2007 (the eve of a new policy after a change in the country's leadership). However, there have been no fundamental changes.

The structure of investments in the national economy of Turkmenistan in 2000 and 2007-2013 (%):



Источник: ГОСКОМСТАТ (2014).

Legend:

- Others
- Health care and education
- Housing and utilities
- Building
- Transport and communications
- Agriculture
- Industry

SOURCE: State Statistics Committee (2014)

Sown areas of major agricultural crops by farm category, thousand hectares *.

	Total sown area		Including:							
			Cereals and legumes		Technical crops		Potatoes and vegetables and melons		Fodder crops	
	2011	2018	2011	2018	2011	2018	2011	2018	2011	2018
In all farms	1545,7	1481,6	885,2	796,0	571,9	564,7	60,0	84,1	28,6	36,8
Including:										
Agricultural enterprises	1475,7	1407,1	876,1	786,6	571,4	564,2	9,1	30,1	19,1	26,2
Private farms	70,0	74,5	9,1	9,4	0,5	0,5	50,9	54,0	9,5	10,6

Source: Statistical Yearbook of Turkmenistan, 2012, 2018. Section 6.2.4.

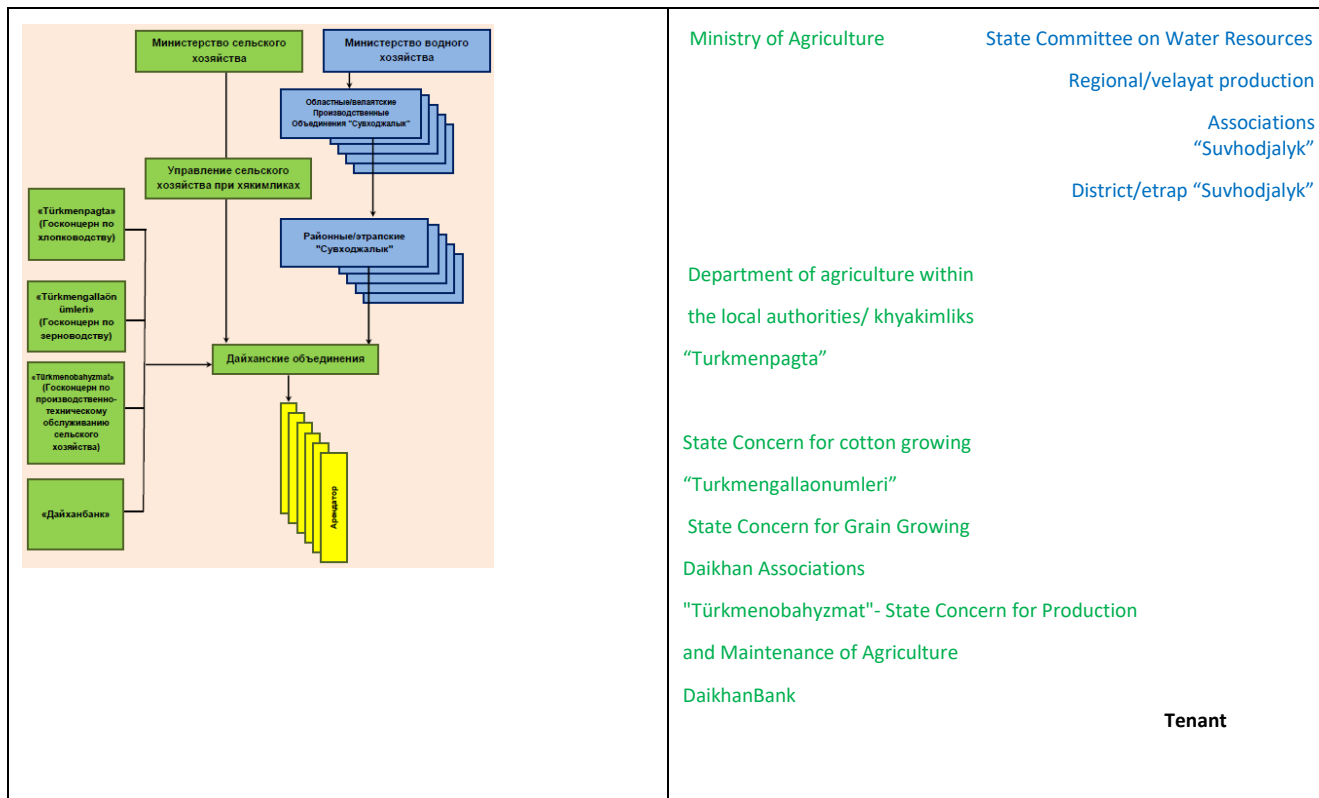
* Including re-crops.

The area under crops for the main agricultural crops is 95.9% of the level of seven years ago. At the same time, the land of the water fund is 110.4%.

The Ministry of Agriculture and Environmental Protection of Turkmenistan is responsible for drafting lease agreements between the daikhan association and tenants, as well as providing the tenants with seeds ("Türkmengallaönümleri" - State Concern for Grain Growing, and "Türkmenpagta" - State Concern for Cotton Growing), for the implementation of mechanized work

("Türkmenobahyzmat"- State Concern for Production and Maintenance of Agriculture) - plowing, sowing, cultivation, harvesting, fertilizers and plant protection products ("Türkmtndökünhimiya"- State Concern for Mineral Fertilizers and Chemicals), etc. The State Committee for Water Resources of Turkmenistan is responsible for the supply of water for irrigation to the discharge points of the daikhan associations.

Such provision of agriculture is presented in the form of the following diagram:



In livestock production, compared to crop production, the organization system was more simplified, with fewer agencies and organizations involved and, accordingly, less regulatory approach. In this part of agricultural production, the multilevel management approach was also not clearly expressed.

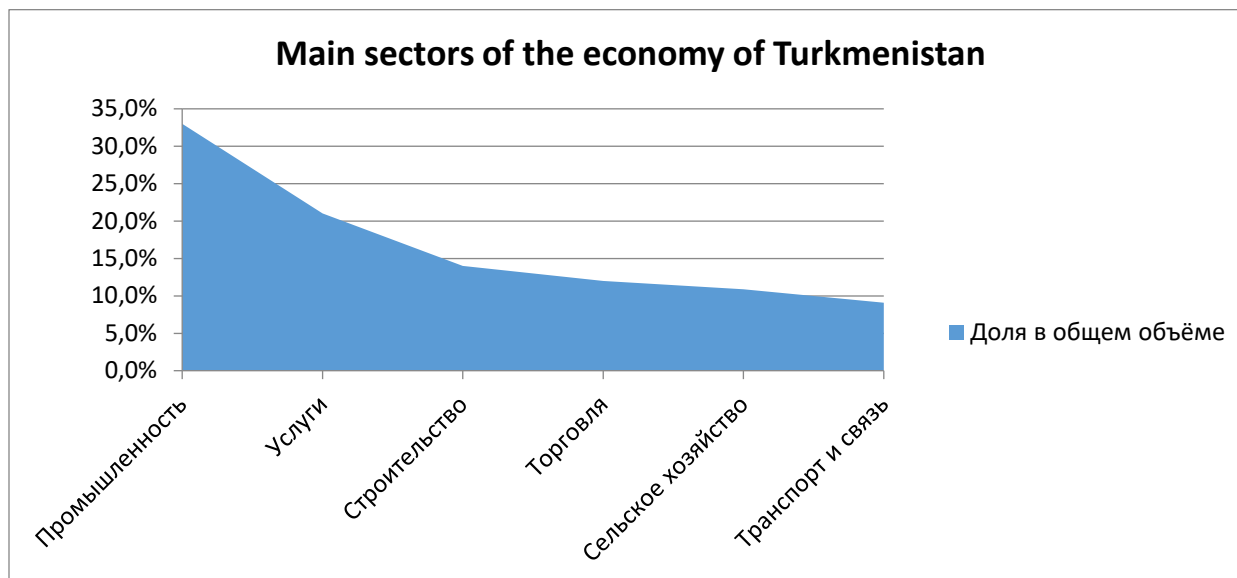
Fodder crops were still sown in the early 1990s, mainly alfalfa and corn for silage. But then there was a significant reduction in their crops. In general, this was typical for all regions of the country. In accordance with the specialization, the structure of crops was also formed, in which from the beginning of the 1990s, winter wheat and cotton dominated, including due to reduction in the area of forage crops (UNDP, 2003). The predominant part of the cultivated area was redistributed in the velayats to increase the area under wheat.

And only in recent years the area for these crops began to increase. It is believed that this growth was justified, first of all, by the following three reasons: (1) the need to develop crop rotation (mainly alfalfa and corn), (2) the need for feed for developing horse breeding (mainly oats), (3) the need for feed for actively building livestock and poultry farms (mainly alfalfa and corn).

In real agricultural practice, with such a complicated scheme of agricultural relations, it is difficult to achieve sufficient coordination / management at the level of numerous daikhan associations throughout the entire agricultural season, to ensure timely supplies of resources and services in the required volume everywhere (Stanchin et al., 2011). This is especially important when cultivating cotton, which is characterized by volatility and high dependence on climatic conditions.

Accordingly, the above is reflected in the yield obtained and the profits of farmers. With such a system, the country's agricultural sector makes large production and non-production costs of material and labor resources when growing crops, especially in the state order system (Stanchin et al., 2011). Under such conditions of temporary farming, the tenant builds labor relations and cultivates the land on a seasonal basis, and wants to maximize short-term income (the system of sustainable management of land and water resources is not practiced, although the law provides for the possibility of solving land ownership).

According to the "Program of the President of Turkmenistan for the Socio-economic Development of the Country for 2018-2024", the shares of industries in the country's economy will look as follows:



- Industry
- Services
- Construction
- Trade
- Agriculture
- Transport and communications

Share in total

The share of agriculture for the forecast period will be 10.9%.

Summarizing the dynamics of the development of agriculture in the past, it can be concluded, in a certain sense, the psychological preparation of the consciousness of people was carried out. After going through the stages of a collective, family and rental contract; having contacted the rights of land ownership and land use, making sure that alone (be it a farmer or a tenant), it is not possible to develop his land allotment, regardless of whether it is leased or owned, there is a stringent need to develop cooperation on a democratic basis with an optimal state regulation.

As the next stage of development, one could expect an attempt to orient agricultural production towards the creation of an integrated agricultural production, with mandatory crop rotation and other progressive technologies, including all stages of production, collection, storage, processing, transportation and sale of products.

However, at present, there is no strategic approach to the development of agriculture as a vital socio-economic structural state component. The decisions made on the allocation and management of land resources are spontaneous and reactive. They do not take into account the fundamental differences in the user's attitude to land resources during their *lease or long-term use*, and are mostly mercantile in nature.

II. BRIEF OVERVIEW OF THE CREDIT AND FINANCIAL SPHERE OF TURKMENISTAN

The interest rate on loans announced by the Central Bank in February 2020 is 5.0% per annum. Deposit rates are: 3.0% - 1 month; 3.5% - 2 months; 4.0% - 3 months.

Dynamics of investments in industrial facilities of Turkmenistan for the period from 2014 to 2018:

Years	Investments (%)	
	Industrial facilities	Social and cultural facilities
2018	79,5	20,5
2017	71,2	27,9
2016	65,0	35,0
2015	64,2	35,8

2014	61,2	38,8
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Source: Central Bank of Turkmenistan - Banking Bulletin No. 2 - 2020.

The amount of investments disbursed from all sources of financing in 2019 is 35.8 billion manats of Turkmenistan.

According to the Investment Program of Turkmenistan for 2020, the volume of investments in the country's economy will amount to 39.5 billion TMT. Of these, the share of investments in production facilities will be 70%.

Main macroeconomic indicators of the development of Turkmenistan for 2007–2018:

Indicators	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019*
Growth rate of gross domestic product in comparable prices, %	11,0	14,7	6,1	9,2	14,7	11,1	10,2	10,3	6,5	6,2	6,5	6,2	6,3
Fixed capital investments, million TM manats	4600,6	15518,0	27384,1	29130,9	36985,0	48407,1	51834,9	54978,2	59240,9	59456,1	54211,7	40333,5	
Foreign trade turnover, million US dollars	13374,1	17651,9	18315,3	17882,8	28111,8	34124,8	34944,2	36419,6	26215,4	20696,9	17976,5	16969,8	
- export	8932,1	11 944,7	9322,9	9679,2	16751,0	19986,6	18854,2	19781,9	12164,0	7520,1	7787,9	11650,7	
- import	4442,0	5707,2	8992,4	8203,6	11360,8	14138,2	16090,0	16637,7	14051,4	13176,8	10188,6	5318,4	
Foreign trade balance, million USD	4490,1	6237,5	330,5	1475,6	5390,2	5848,4	2764,2	3144,2	-1887,4	-5656,7	-2400,7	6332,2	
Average monthly salary, manat (*)	507,1	604,4	677,6	742,8	848,4	943,4	1047,0	1152,7	1263,2	1290,0	1432,8	1566,1	
Consolidated consumer price index (chain index), %	108,72	108,85	100,11	104,77	105,60	107,81	104,02	104,42	105,97	106,17	110,42	107,20	

* for large and medium-sized enterprises

According to the data of official website of the State Statistics Committee of Turkmenistan: www.stat.gov.tm

From January 1, 2021, the monthly wages of employees of institutions financed from the budget, self-supporting enterprises and public associations, pensions and state allowances, scholarships for students and learners will be increased by 10 percent.

From January 1, 2021, the minimum wage in Turkmenistan will be set at 957 manats and used to streamline monthly wages.

Data on loans provided by credit institutions of Turkmenistan:

Indicators	01.03.2019				01.01.2020				01.03.2020				
	Total	Including:			Total	Including:			Total	Including:			
		ST	LT	OD		ST	LT	OD		ST	LT	OD	
Loans provided by credit institutions of the country to enterprises, organizations, population, million TMT - TOTAL: Including:	51945,7	4120,8	45171,0	2653,9	60866,1	3463,3	54360,5	3042,3	61545,4	2866,4	55297,6	3381,4	
• State-owned enterprises and organizations	38566,4	4044,2	31901,8	2620,4	44844,9	3373,4	38468,8	3002,7	44685,4	2718,9	38624,6	3341,9	
• Enterprises and organizations of non-state property	2908,5	64,7	2823,5	20,2	4284,4	82,6	4171,8	29,9	4937,0	138,7	4768,1	30,2	

• Individuals and entrepreneurs without a legal entity	10470,9	11,9	10445,7	13,3	11736,8	7,3	11719,8	9,7	11923,1	8,8	11904,9	9,3
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Legend: ST - short-term loans; LT - long-term loans; OD - overdue loans.

Source: Central Bank of Turkmenistan - Banking Bulletin No. 2 - 2020

In the structure of agricultural production, the share of the private sector is 62% (*Statistics Collection of Turkmenistan, 2017*). In crop production, 35.5% of production is manufactured by the private sector. In animal husbandry, the bulk of production - 78% - falls on the private sector. As of 2017, the number of daikhan associations was 521 (83 units less than in 2011). The number of daikhan associations has reached 3.2 thousand units (increased by 1.8 times compared to 2011).

Average interest rates on loans (as of January 2020):

Loan terms	State commercial banks		Joint-stock commercial banks			State Development Bank			Banks with participation of foreign capital			
	For legal entities	For individuals	For legal entities	For legal individuals	For individuals	For legal entities	For legal individuals	For individuals	For legal entities	For legal individuals	For individuals	
3 to 6 months	9,0											
6 months to 1 year		16,0	5,1									
Over 1 year	7,37	15,55	1,71	9,3	3,0	0,0						

Source: Central Bank of Turkmenistan - Banking Bulletin No. 2 - 2020

CONCESSIONAL LOAN

1. In accordance with the Decree of the President of Turkmenistan **No. 12446 "On state support for small and medium-sized businesses"** dated July 20, 2012, crediting of entrepreneurs and individual enterprises at 5% per annum is carried out for the following periods:

- *Investment projects* - up to 10 years.
- *Obtaining of circulating assets* - up to 1 year.

Lending for investment projects is carried out with the condition of a deposit of at least 15% of private funds. Crediting is subject to investment projects with the following objectives:

- development of industrial production;
- installation, expansion, reconstruction and technical re-equipment of the existing production, including the purchase of equipment, small-sized equipment, raw materials, semi-finished products, accessories for small production.
- development of construction, including building of infrastructure facilities.
- development of the building materials industry.
- development of transport, communications and communication technologies.
- development of services and consumer services for the population.
- development of health care and tourism services.
- development of new jobs for use in agricultural production, and the **restoration of fallow lands**.
- development and expansion of own agricultural production, increasing the volume of processed products, including the purchase of agricultural machinery, the construction of cattle sheds, farms, small production, the purchase of livestock, poultry, feed, veterinary medicines, plant protection chemicals, mineral fertilizers, seeds, seedlings, tree seedlings.
- development of folk arts and crafts.
- other types of entrepreneurial activities, including innovative activities, not prohibited by the legislation of Turkmenistan.

To apply for a loan, the following documents should be provided:

1. Loan application;

2. For individuals - a copy of identity document, a copy of tax registration certificate, a copy of registration certificate and patent (if provided for by regulatory legal acts), as well as a license to carry out the relevant activities.
3. Income tax statement of a person who has become an individual entrepreneur.
4. For legal entities - copies of certificates of state registration and tax registration, as well as copies of **licenses to carry out relevant activities**.
5. Balance sheet at the date of the last report and balance for the last 3 years.
6. Income and loss statement;
7. Work plan for investment projects financed through loans.
8. Copies of agreements on the use of credit and invoices.

2. In accordance with the Decree of the President of Turkmenistan No. 942 "**On Financial Support for Agricultural Producers in the Country**" dated October 12, 2018, the provision of tax credits to agricultural producers is carried out in the following terms and at the following interest:

- to agricultural producers - for *the purchase of agricultural machinery, mechanisms and tools used in agriculture, excavators and bulldozers, water-saving equipment, equipment used for watering pipes* at 1 percent per annum on a uniform annual return, based on their service life of 10 years.
- *in order to finance investment projects related to the development of livestock and poultry farming, production, processing of agricultural products and provision of services, as well as for the acquisition of fixed assets and property* at 5 percent per annum for up to 10 years.

Crediting for projects of agricultural producers is carried out with the condition of a contribution of at least 15% of private funds. Agricultural producers shall submit the following documents to the bank to obtain a production loan:

1. Loan application;
2. For individuals - a copy of the identity document, and for land owners - a copy of the tax registration certificate.
3. For legal entities - copies of certificates of state registration and tax registration.
4. Work plan for investment projects financed through loans.
5. Copies of agreements on the use of credit and invoices.
6. Copies of State Acts giving ownership of a plot of land or the use of a plot of land, the Agreement on the right to lease land.

The bank may require additional information necessary to make a decision on the grant of a loan. To obtain a preferential production loan, the following types of property can be accepted as collateral.

- Property pledge;
- Guarantee surety or surety of third parties.
- The property received from credit funds (in addition to purchased livestock and poultry) and imported into Turkmenistan can act as collateral.

According to the representatives of "Rysgal" Bank (Union of Industrialists and Entrepreneurs of Turkmenistan), they have sufficient resources for lending, and the bank does not need anyone's help or support.

NOTE on the extremely challenging situation related to foreign currency

The national currency of Turkmenistan, manat, was put into circulation on November 1, 1993. Until that time, since the declaration of independence, Soviet and Russian rubles were circulating in Turkmenistan as a means of payment. The exchange of rubles for manats was carried out in the ratio: 1 manat = 500 ruble.

Until May 2008, 1 US dollar at the official exchange rate was worth 5200 Turkmen manats. There was no free conversion. According to the unofficial exchange rate, the price of 1 US dollar reached 24,000 manats.

Since May 1, 2008, a single rate of the US dollar to manat was established: 1 dollar was equal to 14250 manats. After denomination of the national currency in 2009 (1 denominated manat was equal to 5000 manats), the official rate was fixed:

1 dollar - 2.85 manats (denominated), which lasted until December 31, 2014. During this period, the currency could be freely purchased at the country's exchange offices.

From January 1, 2015 to the present, the official rate is 3.5 manats per 1 US dollar.

Until November 2016, there was a free conversion of manat for individuals and legal entities. Foreign currency payments and transfers were made freely.

Since the end of 2016, significant restrictions have been introduced on conversion, hard currency payments and foreign exchange transfers for all individuals and legal entities. There is practically no conversion of the national currency into freely convertible currency.

These restrictions are in effect at the present time without any exemption. According to the unofficial (market) exchange rate, the price of 1 US dollar reaches 24 manats (October 2020). (*'Ed.'* - Both hard currency exchange rates are operating in Turkmenistan, but only some officials and other rare cases are allowed to use official rates)

III. RESULTS OF MEETING WITH THE REPRESENTATIVES OF BANKS

The PPG group of Experts held remote meetings with the representatives of "Rysgal" bank and UEIT on September 30, 2020 and in October 15, 2020 with the representatives of the following banks participated also: Dayhanbank, Halkbank, Senagat Bank and Turkmenbashi bank.

All banks are issuing concessional loans in accordance with Resolutions No. 12446 and 942. Information on the issuance of concessional loans is provided (current status):

Bank Name	Quantity of issued loans for the 1% and 5%	General purpose of loans
Senagat Bank	More than 1000 clients including both types of loans	Small greenhouses for growing tomatoes, cucumbers etc.
Dayhanbank	514 clients	
Halkbank	8 clients (50/50 for 1% and 5%)	
Turkmenbashi bank	1) 3 clients for 5% 2) 2 clients 1%	1) livestock breeding 2) widening of greenhouses
Rysgal	2013 b 2014 – 600 mln. tmt	construction and agriculture

Loans at 5% per annum in the amount of up to 30,000 tmt (microcredits) are issued by banks, including for land reclamation and restoration of land. Lending is mainly focused on the industrial sector.

The provision of loans, including soft loans, is carried out exclusively in accordance with the Decrees of the President of Turkmenistan and in line with the instructions of the Central Bank.

Not all banks have branches (offices) in etrap (districts). Almost all banks have branches in the velayats. To prepare a package of documents for obtaining a loan, third-party companies are involved.

Banks do not take credit risk issues into account - they are partially removed by the list of necessary documents for obtaining a loan. Cooperation and partnership of banks with other organizations, including international ones, requires a special permission (mandate) from the Central Bank.

IV. PRELIMINARY SURVEY

During the PPG stage [*national awareness consultant Natalia Chemayeva*], 167 questionnaires received from four groups of respondents were processed, both through the MFA channels and through the project experts from Dashoguz and Lebap. From users of natural resources (NRU), 70 participants were represented, from government representatives - 32 participants, from NGOs and civil society we received 59 questionnaires. In addition, 6 local banks provided their responses to the questionnaires that were included in the final report.

There is an understanding of the importance of environmental flows among land users (farmers and local authorities). However, in practice, the pressing problems of providing irrigation water for the used surface irrigation system prevail. Most people have only theoretical interest in water-saving technologies.

The Dashoguz velayat is very interested in obtaining loans for equipment, providing feed for their livestock and receiving additional consulting services on the correct planning of their business. Lebap velayat is also very interested in using loans not only for the purchase of new equipment, but for the purchase of seeds and mineral fertilizers. It is also aimed at introduction of new lands into circulation and the development of livestock raising, as well as in the construction of watering points for livestock and in obtaining additional consultancy services on the correct planning of their own business.

There is good awareness of concessional government loans, but most people need *more flexible financial mechanisms*, rather than consulting services provided by third parties. At the same time, a significant part of the respondents (especially in the Dashoguz velayat) notes the need for consulting services (drawing up business plans).

The representatives of local authorities are well aware of the tasks related to environmental protection, however, the principle of *land degradation neutrality* in most cases is not adequately understood. The same applies to the representatives of the civil society.

Civil society respondents noted the inaccessibility of knowledge (related to new technologies) and *the lack of government support* for the implementation of measures that could increase the use of new technologies in agriculture. Most of the respondents also noted *the lack of knowledge about lending and high requirements of banks for collateral*. More flexible financial mechanisms can mean easier procedures for obtaining loans.

V. ANALYSIS OF PRIVATE SECTOR DEVELOPMENT IN AGRICULTURE [SARD-III]

This analysis was carried out within the framework of the SARD III project, funded by the European Union [*Support for Further Sustainable Agriculture and Rural Development in Turkmenistan - Phase III. Farhat Orunov and David Pepper, 2020*].

Key findings from the SARD-III project:

- Lack of knowledge, skills and training of adequately qualified specialists remains the biggest problem that needs to be addressed at the state level. The current curriculum and courses offered do not meet the demands of a highly reshaped agri-food industry that competes globally.
- The situation with a poor-quality labor market is exacerbated by restrictions on obtaining information, especially access to high-speed high-quality Internet connections. There is no reliable high-quality data on the agri-food industry, production, processing, marketing; there is no reliable statistical data on the past and current situation, there is no forecasting that allows manufacturing enterprises to make informed and justified decisions.
- Lack of access to finance, credit and other financing schemes is exacerbated by the lack of foreign exchange available at a floating exchange rate. The national exchange rate is severely limited and applies only to some government programs and projects related to food security, as well as to procurement, to which not all enterprises have access.
- Markets for raw materials imported from overseas, including machinery, equipment, seeds, fertilizers, chemicals, other production-related technologies and even consulting services, tend to be of very poor quality. This is a direct result of the above 3 challenges and will require strong commitment, targeted government policy and funding, and many years of hard work to improve the situation.
- Given the potential export markets, it would be interesting to consider whether Turkmenistan should focus on growing high value crops such as melons, tomatoes, table grapes (early season), where Turkmenistan has a clear climatic advantage over the more northern states of the former Soviet Union. And also to reduce obligations for growing wheat, since growing wheat under irrigated conditions is rarely profitable. It is better to save costs on inputs and water (in short supply) and import wheat from the world market.
- The vast majority of newly established livestock and greenhouse projects are started by construction firms and / or other commercial companies that have neither technical expertise nor experience in agribusiness. Unfortunately, there are also those who are attracted exclusively by the support provided through government programs, such as access to credit, government exchange rates, and long-term land leases. The subsequent poor performance of such businesses, as observed by regulators, has a lasting and negative reputation impact on many other new businesses operating in good faith.
- Lack of access to quality arable land for newly established agri-food projects remains one of the key development challenges for this sector. Poor quality land (and soils) without adequate infrastructure (drainage, irrigation, etc.) and access to irrigation water, which requires enormous financial resources and time from new enterprises, many find unable to cope with and will never be able to cope with this burden.

- In the wake of the aforementioned challenges and problems observed in recent years, it can be seen that the nascent private sector is waging an unequal struggle against the old, bureaucratic and ineffective state system of command, regulation, interference and abuse of power used by government officials and functionaries at the middle and industry levels. Despite the obvious success and proof of the economic sustainability of the private sector, this struggle will continue for quite some time, unless faster and more radical economic and institutional reforms are carried out, which are possible only with a strong and decisive political will of the country's leadership.

To the above conclusions, the following observations should be added in the implementation of a number of other international projects in relation to the country in question.

In the social structure, there is a prevalence of the power component over the social part, which, according to all economic canons, is considered as the main and driving force of socio-economic development. The priority of government officials, administrative workers at all levels, representatives of law enforcement agencies and special services over potential entrepreneurs representing small and medium-sized businesses in agriculture, industrial production and the provision of services inevitably leads to the enslavement of economic development in all spheres of activity.

Big business, adjoining the power component, pursues, accordingly, its own goals. This state of affairs leads to an increasing stratification of society into power elites, plus large and protectionist business, and other population, mainly engaged in the problems of their livelihoods. The locomotive of scientific and technological progress, spiritual and economic progressive development of the society is disappearing.

The direction of the remaining state potential under such conditions on large-scale infrastructure construction and on inadequate innovations, for example, in the field of road traffic, in the absence of clear and unambiguous financial and economic mechanisms, which should be based on the laws of management theory and queuing, and not on digital declarations, only aggravate the current situation, inducing social tension.

VI. CONCLUSIONS AND GENERAL RECOMMENDATIONS for the Project design and implementation

The state support for agricultural producers (non-state sector), including in the restoration of fallow lands, is carried out in the form of providing soft loans:

- for the purchase of agricultural machinery, tools and accessories, water-saving equipment, water supply systems used for irrigation up to 30,000 manats for less than 1% for 10 years (lending for investment projects is subject to the contribution of at least 15% of private funds).
- to finance agricultural investment projects related to the production, storage and processing of agricultural products, and the performance of agricultural work for up to 30,000 manats up to 5% for 10 years (lending for projects of agricultural producers is carried out with the condition of a contribution of at least 15% of private funds).

To obtain a preferential production loan, the following types of property can be accepted as collateral:

- Property pledge;
- Guarantee surety or surety of third parties.
- The property received from credit funds (in addition to purchased livestock and poultry) and imported into Turkmenistan can act as collateral.

In addition to a voluminous package of documents for obtaining a loan, the banks may require additional information necessary for making decision on granting a loan.

In addition to these two concessional loans, there are no other financial mechanisms or specialized financial structures (funds) that, in our context, could provide financial support to the national agricultural producer.

Summarizing the results of a preliminary survey of the issue of financing micro-breakdown, we come to the following conclusion:

- Concessional lending, which theoretically represents a financial support for agricultural producers, in practice it leads to the need to overcome additional problems (registration of a package of documents, collateral, patents and licenses, raising own funds in the amount of 15% of the future loan and evidence-based documentation of this fact).
- The main part of agricultural producers of crops needs financial assistance (grants) for the purchase of equipment, seeds, fertilizers, as well as servicing possible credits (payment of interest on the loan), otherwise the loans remain largely unaffordable to most of the small and mid-size farmers.

- The size of the concessional loan is about 30,000 tmt (8.5 thousand US dollars at the official rate). However, this amount in real conditions (considering the unofficial (market) exchange rate of the national currency against the US dollar), results in a conditional size of the loan of about 1250 US dollars. This amount makes any entrepreneurial activity impossible.
- IN addition, the implementation of any new financial instrument is not possible, as the legal currency and financial market is completely undeveloped in the country.

The following can be recommended as entry points for a grant scheme for farmers, within the proposed project:

- Assistance to national agricultural producers (farmers) in obtaining technical support and guarantees for 15% loan collateral, by providing assistance in developing business plans and completing necessary package of documents. This will require the practical development of these bank application documents (with the support of a lawyers and economist). However, the possibility of returning credit funds remains difficult if not impossible for most of the farmers.
- Assistance to agricultural producers by establishing centers / or services to provide support in the preparation of business plans and completion of the necessary package of documents in cooperation with the banks (for example, Dayhanbank and Halkbank). The project could support a series of trainings in order to increase the potential of extension officers or bank personnel who will directly support agricultural producers in drawing up business plans.
- Envisage closer cooperation with the UIET and Rysgal Bank in order to support local agricultural producers, including representatives of small and medium-sized businesses, in all directions, by providing consultations and demonstrations of new technologies, providing a platform for exchange of experience.
- Information and training seminars are needed primarily for leaders and representatives of local authorities (in the field of land resources planning and irrigation - SLM and IWRM; protected natural areas; environmental principles of nature management - the production capacity of ecosystems, ecological runoffs of water resources; biodiversity and soil fertility; etc.).

Taking all of the difficulties into account PPG team believe that potential costs / investments for LDN, environmental / pasture improvement issues can only be possible in practice through a grant scheme.

*Ed. *(This brief assessment has been put together by the national LDN consultant M.Nepesov in collaboration with other national and UNDP country office specialists)*

Annex 12: *Minute of the Meeting with the Ministry of Agriculture and Environmental Protection officials on the targeted PAs-Justification for targeted PAs reconsideration*

**MEETING MINUTES
OF THE COORDINATION MEETING OF THE GROUP OF PPG EXPERTS WITH REPRESENTATIVES OF THE MINISTRY OF AGRICULTURE
AND ENVIRONMENTAL PROTECTION**

on the discussion of protected areas proposed as priority in the preparation of the project proposal (PPG) "Conservation and sustainable management of land resources and ecosystems of high natural value in the Aral Sea basin"

Date and venue:

October 29, 2020, 11:00-14:00
Room 39 of the National Institute of Deserts, Flora and Fauna (NIDFF)

Meeting participants:

No	Meeting participants
1.	Jumamurad Saparmuradov , Head of the Department of Environmental Protection and Hydrometeorology of the Ministry of Agriculture and Environmental Protection, National Coordinator for the Conventions on Biodiversity, Ramsar, Bonn, Ozone Layer Conservation
2.	Mergen Yusupov , Deputy Head of the Department and Coordination of International Projects and Environmental Programs of the Ministry of Agriculture and Environmental Protection, National Coordinator PPG GEF Aral Sea Project
3.	Durikov Mukhamet , Director of SIC ICSD and National Focal Point of UNCCD
4.	Batyr Mamedov , Leading National Expert on (PPG GEF) Coordination and Stakeholder Engagement
5.	Murad Nepesov , National LDN Expert (PPG GEF)
6.	Guljemal Kurbanmamedova , National Expert on Protected Areas (PPG GEF)
7.	Kurbanmurad Ovezmuradov , National Expert on Water Resources (PPG GEF)
8.	Atakhanov Guvanch , National Expert on Pasture and Forest Management (PPG GEF)
9.	Natalya Chemayeva , National Expert on Communication and Awareness (PPG GEF)

The purpose of the meeting: Coordination of protected target areas under Component 2, aimed at biodiversity conservation and discussion of activities aimed at achieving the main results of the component.

Component 2 (for SPA):

According to the PIF information and the collected expert data, it is necessary to improve the information on protected areas (reserves and sanctuaries) and KBA and IBA territories. At the moment, it is necessary to systematize the information presented. As a result of numerous meetings and agreements with representatives of the local community (local khyakimliks) and the Ministry of Agriculture and Environmental Protection, the following changes / amendments were proposed, which are recommended to be taken into account when developing a project activities and indicators for the Component 2 (PAs): **Concentrate the main project activities within the geographical scope as per the project title (namely, focus on the area of impact of the Aral Sea in Turkmenistan) under Component 2, Outcome 2.1, on the following 5 protected areas respectively:**

Table 1. Recommended SPAs for project coverage

No	SPA name	SPA area
1	Gaplangyr State Nature Reserve	275 735
2	Shasenem State Nature Reserve	109 002
3	Sarykamysch State Nature Sanctuary	541 466
4	Amudarya State Nature Reserve	48 351
5	Kelif State Nature Sanctuary	102 594
	Total SPA area	1 077 148 hectares

While, according to the PIF, PAs total area of 544,423 hectares was indicated, some of them do not have a legal status/do not exist (Pitnyaksky sanctuary), and at the same time, in the PIF, the area of some sanctuaries subordinated to the reserves was not considered (e.g. Shasenem, Sarykamish). It is proposed that Koytendag and Repetek nature reserves are excluded from the list, and even so, the number of hectares declared in the PIF does not decrease, on the contrary, it remains almost 2 times larger. The exclusion of 2 reserves (Koytendag and Repetek) from direct project investments, can be explained as follows:

A) Koytendag state nature reserve is located in the southeastern part of Turkmenistan and was created with the aim of preserving and restoring the ecosystems of the Koytendag ridge, Govurdak mountains and adjacent areas. The reserve also manages 4 state nature sanctuaries: Karlyuk, Khojaypil, Khojaburdzhibelent and Khojagaravul. The reserve itself occupies the area of 27,137 hectares, and together with the protected zone and sanctuaries - more than 150 thousand hectares. Koytendag covers a mountain ecosystem; it is located much to the south of the zone of influence of the Aral Sea crisis, it is outside of the Amu Darya zone (and does not belong territorially to the targeted districts.).

B) Repetek State Biosphere Reserve is the very first reserve established in Turkmenistan and is located in the Eastern Karakum Desert. It was created with the aim of preserving desert ecosystems, primarily white and black saxaul. In 1979, for the results achieved in the protection and comprehensive study of desert ecosystems, by the decision of the UNESCO Man and the Biosphere Program, the Repetek Reserve was awarded the status of a biosphere reserve with inclusion in the international network of biosphere reservations. The reserve manages Yeradzhy sanctuary, located 90 km north-west of the reserve itself; 1/3 of it is currently occupied by collector-drainage waters. Repetek covers a desert ecosystem and is not included in the zone of influence of the Aral Sea crisis, and is also located outside the Amu Darya zone (and does not belong territorially to the targeted districts).

Taking into account the above, a group of experts and representatives of the Ministry of Agriculture and Environmental Protection proposed not to consider Koytendag State Natural Reserve and Repetek State Biosphere Reserve as the main pilot sites (and direct beneficiaries), but to work with them in the following areas (indirect beneficiaries):

- Capacity building;
- Legislative aspect;
- Raising awareness;
- Conducting research by organizing expeditions

C) Concerning Pitnyak upland⁷⁷:

According to Component 2, some PAs and KBAs (without official status) are listed in the GEF 7 Core Indicator Worksheet, which are included in the required ~ 544 423 ha, according to the PIF. During the PPG stage, the specified information on Pitnyak sanctuary was verified. According to the information received from experts, the status of Pitnyak sanctuary has not been finally approved, although there was indeed a conversation about this in 2012-2014 and its creation was included in the "Program for the Development of the System of Protected Areas of Turkmenistan" developed within the framework of a joint project of UNDP / GEF and the Ministry of Nature Protection of Turkmenistan. However, the proposal to create Pitnyak sanctuary remained unrealized, since the Program for the Development of the System of Protected Areas of Turkmenistan was ultimately not approved, and the current leadership of the Ministry of Agriculture and Environmental Protection does not know about the existence of this Program.

Concerning IBA / KBA Soltansanjar-Duebuyun: coastal areas of Pitnyak sanctuary are advisable to be included under the project scope, together with Pitnyak sanctuary (all of them are located geographically in the Pitnyak Upland). However, regarding these territories, the proposals did not reach the top management, and today Pitnyaks reserve does not have any official status, which does not correspond to the information stated in the PIF. **Thus, the territories of Pitnyak sanctuary and Duebuyun-Sultansanjar can be left for the future. A proposal can be made to establish a new PA within the framework of Outcome 2.2, including the territory of the KBA.**

D) In relation to Goyungyrlan:

Considering that Goyungyrlan is included in the list of Key Biodiversity Areas (KBA), as well as the fact that, according to the observations of the PPG team and recommendations of stakeholders, Lake Zengi-baba is located nearby, which also has a high value for biodiversity, it is recommended to make a proposal to combine them in one protected area, and within the framework of the project **Outcome 2.2** submit a proposal to the Ministry of Agriculture and Environmental Protection. (see also *Minutes of the meeting with beneficiaries in Dashoguz velayat, May 26-27, 2020*).


⁷⁷ Presented information in the PIF/ GEF 7 Core Indicator Worksheet is not accurate, as the Pitnyak Sanctuary does not exist as a legally established PA (according to the official records and personal interviews with MAEP representatives)

Hereby we confirm the Protocol:

_____ Jumamurad Saparmuradov

_____ Mergen Yusupov

_____ Mukhamed Durikov


_____ Batyr Mamedov

Annex below: Copy of original Minute (Russian)

**ПРОТОКОЛ
КООРДИНАЦИОННОЙ ВСТРЕЧИ ГРУППЫ ЭКСПЕРТОВ С
ПРЕДСТАВИТЕЛЯМИ МИНИСТЕРСТВА СЕЛЬСКОГО ХОЗЯЙСТВА И ОХРАНЫ
ОКРУЖАЮЩЕЙ СРЕДЫ ТУРКМЕНИСТАНА**

по обсуждению охраняемых территорий, предлагаемых в качестве приоритетных в рамках подготовки проектного предложения (PPG) «Сохранение и устойчивое управление земельными ресурсами и экосистемами высокой природной ценности бассейна Аральского моря»

Дата и место проведения:

29 октября 2020 года, 11:00-14:00

Каб.39, Национального Института Пустынь, растительного и животного мира (НИПРЖМ)

Участники встречи:

№	Участники встречи
1.	Джумамурад Сапармурад, Начальник управления охраны окружающей среды и гидрометеорологии Министерства сельского хозяйства и охраны окружающей среды, Национальный координатор по конвенциям о биоразнообразии, Рамсарской, Боннской, Сохранению озонового слоя
2.	Мерген Юсупов, Заместитель начальника Управления и координации международных проектов и экологических программ Министерства сельского хозяйства и охраны окружающей среды, Национальный координатор PPGAral
3.	Дуриков Мухамет, Директор НИЦ МКУР и National Focal Point of UNCCD
4.	Батыр Мамедов, Ведущий национальный эксперт по координации PPGAral и взаимодействию с заинтересованными сторонами
5.	Мурад Непесов, Национальный эксперт по НБДЗ PPGAral
6.	Гульджемал Курбанмамедова, Национальный эксперт по ООПТ PPGAral
7.	Курбанмурад Овезмурад, Национальный эксперт по водным ресурсам PPGAral
8.	Атаханов Гуванч, Национальный эксперт по управлению пастбищами и лесами PPGAral
9.	Наталья Чемаева, Национальный эксперт по коммуникации и осведомленности, протоколист PPGAral

Цель встречи: Согласование охраняемых целевых территорий в рамках Компонента 2, направленного на сохранение биоразнообразия и обсуждение мероприятий нацеленных на достижение основных результатов компонента.

Компонент 2 (по ООПТ):

Согласно информации PIF и собранным данным экспертов необходимо усовершенствовать информацию по ООПТ (заповедникам и заказникам) и территориям КВА и ИВА. В данный момент информация представлена разрозненно и необходима ее систематизация. В итоге, в результате многочисленных встреч и согласований с представителями местного сообщества (местные хякимлики) и Министерства сельского хозяйства и охраны окружающей среды, следующие изменения/поправки были предложены, которые

рекомендуется учесть при разработке проекта по Компоненту 2 PIF (ООПТ): Сконцентрировать основную деятельность проекта в рамках географического охвата (влияние Аральского моря) по Компоненту 2, Результату 2.1 на следующие 5 ООПТ:

Таблица 1. Рекомендуемые ООПТ для охвата проектной деятельностью

№	Название ООПТ	Территория ООПТ
1	Гаплангырский государственный природный заповедник	275 735
2	Шасенемский государственный природный заказник	109 002
3	Сарыкамышский государственный природный заказник	541 466
4	Амударьинский государственный природный заповедник	48 351
5	Келифский государственный природный заказник	102 594
Общее количество земель ООПТ		1 077 148 га

В то время, как согласно PIF были указаны ООПТ общей площадью 544 423 га, часть из которых не имеют легального статуса (Питнякский заказник), а также не была учтена площадь некоторых заказников, подчиненных заповедникам. Даже в случае исключения Койтендагского и Репетекского заповедников из списка, количество гектар, заявленных в PIF не уменьшается и остается больше почти в 2 раза. Исключение 2-х заповедников можно объяснить следующим:

А) Койтендагский государственный природный заповедник находится в юго-восточной части Туркменистана и создан с целью сохранения и восстановления экосистем хребта Койтендаг, Говурдакских гор и прилегающих участков. В ведении заповедника также находятся 4 государственных природных заказника: Карлюкский, Ходжайпильский, Ходжабурджибелентский и Ходжагаравулский. Сам заповедник занимает площадь 27 137 га, а вместе с охранной зоной и заказниками – более 150 тысяч гектаров. Койтендаг охватывает горную экосистему, находится значительно южнее зоны влияния Аральского кризиса, вне зоны Амударьи и не относится территориально к пилотным этрапам.

Б) Репетекский государственный биосферный заповедник является самым первым созданным в Туркменистане заповедником и находится в Восточных Каракумах (desert). Создан он с целью сохранения пустынных экосистем, прежде всего белого и черного саксаула. В 1979 года за результаты, достигнутые в деле охраны и комплексного изучения экосистем пустынь, решением программы ЮНЕСКО “Человек и биосфера“ Репетекскому заповеднику присуждается статус биосферного заповедника с включением в международную сеть биосферных резерватов. В ведении заповедника находится Ераджинский заказник, расположенный в 90 км северо-западнее самого заповедника, 1/3 часть в настоящее время занята коллекторно-дренажными водами. Репетек охватывает пустынную экосистему и не входит в зону влияния Аральского кризиса, а также находится вне зоны Амударьи и не относится территориально к пилотным этрапам.

Учитывая, вышенаписанное, группой экспертов и представителями МСХиООС предлагается не рассматривать Койтендагский государственный природный заповедник и Репетекский государственный биосферный заповедник в качестве основных пилотных участков, а работать с ними по следующим направлениям:

- Повышение потенциала;
- Законодательный аспект;
- Повышение осведомленности;
- Проведение исследований путем организации экспедиций

В) По Питнякской возвышенности:

Согласно Компоненту 2, приведены некоторые ООПТ и КРБ (не имеющие официального статуса), которые входят в необходимые ~544 423 га, согласно РИФ. Во время стадии РРГ, была проверена указанная информация по Питнякскому заказнику. Согласно полученной от экспертов информации, статус Питнякского заказника окончательно не утвержден, хотя действительно об этом шел разговор в 2012-2014 гг. и его создание было включено в «Программу развития системы ООПТ Туркменистана», разработанной в рамках совместного проекта ПРООН/ГЭФ и Министерства охраны природы Туркменистана. Однако, предложение по созданию Питнякского заказника осталось нереализованным, поскольку «Программу развития системы ООПТ Туркменистана» в конечном итоге не утвердили, а нынешнее руководство МСХиООС не знает о существовании этой Программы. По ИВА/КРБ Солтансанджар-Дусбуюн: прибрежные районы Питнякского заказника, целесообразно рассматривать совместно с Питнякским заказником (все они находятся географически на Питнякской возвышенности). Однако, и касательно данных территорий, предложения до высшего руководства не дошли и на сегодня Питнякский заказник не имеет никакого официального статуса, что не соответствует информации, заявленной в РИФ. Таким образом, территории Питнякского заказника, Дусбуюн-Султансанджар можно оставить на перспективу и внести предложение по образованию нового ООПТ в рамках Результата 2.2, включающего территории КРБ.

Г) По Гоюнгырлан:

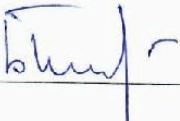
Учитывая, что Гоюнгырлан входит в список Ключевых районов биоразнообразия (КРБ/КВА), а также, то что согласно наблюдениям команды РРГ и рекомендациям заинтересованных сторон, недалеко расположено озеро Зенги-баба, которое также составляет ценность для биоразнообразия, предлагается внести предложение по объединению их в одно ООПТ на территории существующего Шасенемского заказника и в рамках проекта **Результата 2.2** подать предложение в МСХиООС (смотри также *Протокол встречи с бенефициарами в Дашогузском велаяте, 26-27 мая 2020*).

Протокол подтверждаем:

 _____ Джумамурад Сапармуратов

 _____ Мерген Юсупов

 _____ Мухамед Дуриков

 _____ Батыр Мамедов

Annex 13: GEF 7 Taxonomy

Level 1	Level 2	Level 3	Level 4
<input checked="" type="checkbox"/> Influencing models			
	<input type="checkbox"/> Transform policy and regulatory environments		
	<input checked="" type="checkbox"/> Strengthen institutional capacity and decision-making		
	<input checked="" type="checkbox"/> Convene multi-stakeholder alliances		
	<input checked="" type="checkbox"/> Demonstrate innovative approaches		
	<input type="checkbox"/> Deploy innovative financial instruments		
<input checked="" type="checkbox"/> Stakeholders			
	<input type="checkbox"/> Indigenous Peoples		
	<input checked="" type="checkbox"/> Private Sector		
		<input type="checkbox"/> Capital providers	
		<input type="checkbox"/> Financial intermediaries and market facilitators	
		<input type="checkbox"/> Large corporations	
		<input checked="" type="checkbox"/> SMEs	
		<input checked="" type="checkbox"/> Individuals/Entrepreneurs	
		<input type="checkbox"/> Non-Grant Pilot	
		<input type="checkbox"/> Project Reflow	
	<input checked="" type="checkbox"/> Beneficiaries		
	<input checked="" type="checkbox"/> Local Communities		
	<input checked="" type="checkbox"/> Civil Society		
		<input checked="" type="checkbox"/> Community Based Organization	
		<input type="checkbox"/> Non-Governmental Organization	
		<input checked="" type="checkbox"/> Academia	
		<input type="checkbox"/> Trade Unions and Workers Unions	
	<input checked="" type="checkbox"/> Type of Engagement		
		<input checked="" type="checkbox"/> Information Dissemination	
		<input checked="" type="checkbox"/> Partnership	
		<input checked="" type="checkbox"/> Consultation	
		<input checked="" type="checkbox"/> Participation	
	<input checked="" type="checkbox"/> Communications		
		<input checked="" type="checkbox"/> Awareness Raising	
		<input checked="" type="checkbox"/> Education	
		<input checked="" type="checkbox"/> Public Campaigns	
		<input checked="" type="checkbox"/> Behavior Change	
<input checked="" type="checkbox"/> Capacity, Knowledge and Research			
	<input type="checkbox"/> Enabling Activities		
	<input checked="" type="checkbox"/> Capacity Development		
	<input checked="" type="checkbox"/> Knowledge Generation and Exchange		
	<input type="checkbox"/> Targeted Research		
	<input checked="" type="checkbox"/> Learning		
		<input checked="" type="checkbox"/> Theory of Change	
		<input checked="" type="checkbox"/> Adaptive Management	
		<input checked="" type="checkbox"/> Indicators to Measure Change	
	<input checked="" type="checkbox"/> Innovation		
	<input checked="" type="checkbox"/> Knowledge and Learning		
		<input checked="" type="checkbox"/> Knowledge Management	
		<input checked="" type="checkbox"/> Innovation	
		<input checked="" type="checkbox"/> Capacity Development	
		<input checked="" type="checkbox"/> Learning	
	<input checked="" type="checkbox"/> Stakeholder Engagement Plan		
<input checked="" type="checkbox"/> Gender Equality			
	<input checked="" type="checkbox"/> Gender Mainstreaming		
		<input type="checkbox"/> Beneficiaries	
		<input type="checkbox"/> Women groups	
		<input checked="" type="checkbox"/> Sex-disaggregated indicators	

		<input checked="" type="checkbox"/> Gender-sensitive indicators	
	<input checked="" type="checkbox"/> Gender results areas		
		<input checked="" type="checkbox"/> Access and control over natural resources	
		<input checked="" type="checkbox"/> Participation and leadership	
		<input checked="" type="checkbox"/> Access to benefits and services	
		<input checked="" type="checkbox"/> Capacity development	
		<input checked="" type="checkbox"/> Awareness raising	
		<input checked="" type="checkbox"/> Knowledge generation	
<input checked="" type="checkbox"/> Focal Areas/Theme			
	<input type="checkbox"/> Integrated Programs		
		<input type="checkbox"/> Commodity Supply Chains (78 Good Growth Partnership)	
			<input type="checkbox"/> Sustainable Commodities Production
			<input type="checkbox"/> Deforestation-free Sourcing
			<input type="checkbox"/> Financial Screening Tools
			<input type="checkbox"/> High Conservation Value Forests
			<input type="checkbox"/> High Carbon Stocks Forests
			<input type="checkbox"/> Soybean Supply Chain
			<input type="checkbox"/> Oil Palm Supply Chain
			<input type="checkbox"/> Beef Supply Chain
			<input type="checkbox"/> Smallholder Farmers
			<input type="checkbox"/> Adaptive Management
		<input type="checkbox"/> Food Security in Sub-Sahara Africa	
			<input type="checkbox"/> Resilience (climate and shocks)
			<input type="checkbox"/> Sustainable Production Systems
			<input type="checkbox"/> Agroecosystems
			<input type="checkbox"/> Land and Soil Health
			<input type="checkbox"/> Diversified Farming
			<input type="checkbox"/> Integrated Land and Water Management
			<input type="checkbox"/> Smallholder Farming
			<input type="checkbox"/> Small and Medium Enterprises
			<input type="checkbox"/> Crop Genetic Diversity
			<input type="checkbox"/> Food Value Chains
			<input type="checkbox"/> Gender Dimensions
			<input type="checkbox"/> Multi-stakeholder Platforms
		<input type="checkbox"/> Food Systems, Land Use and Restoration	
			<input type="checkbox"/> Sustainable Food Systems
			<input type="checkbox"/> Landscape Restoration
			<input type="checkbox"/> Sustainable Commodity Production
			<input type="checkbox"/> Comprehensive Land Use Planning
			<input type="checkbox"/> Integrated Landscapes
			<input type="checkbox"/> Food Value Chains
			<input type="checkbox"/> Deforestation-free Sourcing
			<input type="checkbox"/> Smallholder Farmers
		<input type="checkbox"/> Sustainable Cities	
			<input type="checkbox"/> Integrated urban planning
			<input type="checkbox"/> Urban sustainability framework
			<input type="checkbox"/> Transport and Mobility
			<input type="checkbox"/> Buildings
			<input type="checkbox"/> Municipal waste management
			<input type="checkbox"/> Green space
			<input type="checkbox"/> Urban Biodiversity
			<input type="checkbox"/> Urban Food Systems
			<input type="checkbox"/> Energy efficiency
			<input type="checkbox"/> Municipal Financing
			<input type="checkbox"/> Global Platform for Sustainable Cities
			<input type="checkbox"/> Urban Resilience
	<input checked="" type="checkbox"/> Biodiversity		
		<input checked="" type="checkbox"/> Protected Areas and Landscapes	
			<input checked="" type="checkbox"/> Terrestrial Protected Areas
			<input type="checkbox"/> Coastal and Marine Protected Areas

			<input checked="" type="checkbox"/> Productive Landscapes
			<input type="checkbox"/> Productive Seascapes
			<input checked="" type="checkbox"/> Community Based Natural Resource Management
		<input checked="" type="checkbox"/> Mainstreaming	
			<input type="checkbox"/> Extractive Industries (oil, gas, mining)
			<input type="checkbox"/> Forestry (Including HCVF and REDD+)
			<input type="checkbox"/> Tourism
			<input checked="" type="checkbox"/> Agriculture & agrobiodiversity
			<input type="checkbox"/> Fisheries
			<input type="checkbox"/> Infrastructure
			<input type="checkbox"/> Certification (National Standards)
			<input type="checkbox"/> Certification (International Standards)
		<input checked="" type="checkbox"/> Species	
			<input type="checkbox"/> Illegal Wildlife Trade
			<input checked="" type="checkbox"/> Threatened Species
			<input type="checkbox"/> Wildlife for Sustainable Development
			<input type="checkbox"/> Crop Wild Relatives
			<input type="checkbox"/> Plant Genetic Resources
			<input type="checkbox"/> Animal Genetic Resources
			<input type="checkbox"/> Livestock Wild Relatives
			<input type="checkbox"/> Invasive Alien Species (IAS)
		<input checked="" type="checkbox"/> Biomes	
			<input type="checkbox"/> Mangroves
			<input type="checkbox"/> Coral Reefs
			<input type="checkbox"/> Sea Grasses
			<input checked="" type="checkbox"/> Wetlands
			<input type="checkbox"/> Rivers
			<input checked="" type="checkbox"/> Lakes
			<input type="checkbox"/> Tropical Rain Forests
			<input type="checkbox"/> Tropical Dry Forests
			<input checked="" type="checkbox"/> Temperate Forests
			<input checked="" type="checkbox"/> Grasslands
			<input type="checkbox"/> Paramo
			<input checked="" type="checkbox"/> Desert
		<input type="checkbox"/> Financial and Accounting	
			<input type="checkbox"/> Payment for Ecosystem Services
			<input type="checkbox"/> Natural Capital Assessment and Accounting
			<input type="checkbox"/> Conservation Trust Funds
			<input type="checkbox"/> Conservation Finance
		<input type="checkbox"/> Supplementary Protocol to the CBD	
			<input type="checkbox"/> Biosafety
			<input type="checkbox"/> Access to Genetic Resources Benefit Sharing
	<input checked="" type="checkbox"/> Forests		
		<input checked="" type="checkbox"/> Forest and Landscape Restoration	
			<input type="checkbox"/> REDD/REDD+
		<input type="checkbox"/> Forest	
			<input type="checkbox"/> Amazon
			<input type="checkbox"/> Congo
			<input type="checkbox"/> Drylands
	<input checked="" type="checkbox"/> Land Degradation		
		<input checked="" type="checkbox"/> Sustainable Land Management	
			<input checked="" type="checkbox"/> Restoration and Rehabilitation of Degraded Lands
			<input checked="" type="checkbox"/> Ecosystem Approach
			<input checked="" type="checkbox"/> Integrated and Cross-sectoral approach
			<input checked="" type="checkbox"/> Community-Based NRM
			<input checked="" type="checkbox"/> Sustainable Livelihoods
			<input checked="" type="checkbox"/> Income Generating Activities
			<input checked="" type="checkbox"/> Sustainable Agriculture
			<input checked="" type="checkbox"/> Sustainable Pasture Management
			<input checked="" type="checkbox"/> Sustainable Forest/Woodland Management

			<input checked="" type="checkbox"/> Improved Soil and Water Management Techniques
			<input type="checkbox"/> Sustainable Fire Management
			<input type="checkbox"/> Drought Mitigation/Early Warning
		<input checked="" type="checkbox"/> Land Degradation Neutrality	
			<input checked="" type="checkbox"/> Land Productivity
			<input checked="" type="checkbox"/> Land Cover and Land cover change
			<input checked="" type="checkbox"/> Carbon stocks above or below ground
		<input type="checkbox"/> Food Security	
	<input type="checkbox"/> International Waters		
		<input type="checkbox"/> Ship	
		<input type="checkbox"/> Coastal	
		<input type="checkbox"/> Freshwater	
			<input type="checkbox"/> Aquifer
			<input type="checkbox"/> River Basin
			<input type="checkbox"/> Lake Basin
		<input type="checkbox"/> Learning	
		<input type="checkbox"/> Fisheries	
		<input type="checkbox"/> Persistent toxic substances	
		<input type="checkbox"/> SIDS : Small Island Dev States	
		<input type="checkbox"/> Targeted Research	
		<input type="checkbox"/> Pollution	
			<input type="checkbox"/> Persistent toxic substances
			<input type="checkbox"/> Plastics
			<input type="checkbox"/> Nutrient pollution from all sectors except wastewater
			<input type="checkbox"/> Nutrient pollution from Wastewater
		<input type="checkbox"/> Transboundary Diagnostic Analysis and Strategic Action Plan preparation	
		<input type="checkbox"/> Strategic Action Plan Implementation	
		<input type="checkbox"/> Areas Beyond National Jurisdiction	
		<input type="checkbox"/> Large Marine Ecosystems	
		<input type="checkbox"/> Private Sector	
		<input type="checkbox"/> Aquaculture	
		<input type="checkbox"/> Marine Protected Area	
		<input type="checkbox"/> Biomes	
			<input type="checkbox"/> Mangrove
			<input type="checkbox"/> Coral Reefs
			<input type="checkbox"/> Seagrasses
			<input type="checkbox"/> Polar Ecosystems
			<input type="checkbox"/> Constructed Wetlands
	<input type="checkbox"/> Chemicals and Waste		
		<input type="checkbox"/> Mercury	
		<input type="checkbox"/> Artisanal and Scale Gold Mining	
		<input type="checkbox"/> Coal Fired Power Plants	
		<input type="checkbox"/> Coal Fired Industrial Boilers	
		<input type="checkbox"/> Cement	
		<input type="checkbox"/> Non-Ferrous Metals Production	
		<input type="checkbox"/> Ozone	
		<input type="checkbox"/> Persistent Organic Pollutants	
		<input type="checkbox"/> Unintentional Persistent Organic Pollutants	
		<input type="checkbox"/> Sound Management of chemicals and Waste	
		<input type="checkbox"/> Waste Management	
			<input type="checkbox"/> Hazardous Waste Management
			<input type="checkbox"/> Industrial Waste
			<input type="checkbox"/> e-Waste
		<input type="checkbox"/> Emissions	
		<input type="checkbox"/> Disposal	
		<input type="checkbox"/> New Persistent Organic Pollutants	
		<input type="checkbox"/> Polychlorinated Biphenyls	
		<input type="checkbox"/> Plastics	
		<input type="checkbox"/> Eco-Efficiency	
		<input type="checkbox"/> Pesticides	
		<input type="checkbox"/> DDT - Vector Management	
		<input type="checkbox"/> DDT - Other	

		<input type="checkbox"/> Industrial Emissions	
		<input type="checkbox"/> Open Burning	
		<input type="checkbox"/> Best Available Technology / Best Environmental Practices	
		<input type="checkbox"/> Green Chemistry	
	<input type="checkbox"/> Climate Change		
		<input type="checkbox"/> Climate Change Adaptation	
			<input type="checkbox"/> Climate Finance
			<input type="checkbox"/> Least Developed Countries
			<input type="checkbox"/> Small Island Developing States
			<input type="checkbox"/> Disaster Risk Management
			<input type="checkbox"/> Sea-level rise
			<input type="checkbox"/> Climate Resilience
			<input type="checkbox"/> Climate information
			<input type="checkbox"/> Ecosystem-based Adaptation
			<input type="checkbox"/> Adaptation Tech Transfer
			<input type="checkbox"/> National Adaptation Programme of Action
			<input type="checkbox"/> National Adaptation Plan
			<input type="checkbox"/> Mainstreaming Adaptation
			<input type="checkbox"/> Private Sector
			<input type="checkbox"/> Innovation
			<input type="checkbox"/> Complementarity
			<input type="checkbox"/> Community-based Adaptation
			<input type="checkbox"/> Livelihoods
		<input type="checkbox"/> Climate Change Mitigation	
			<input type="checkbox"/> Agriculture, Forestry, and other Land Use
			<input type="checkbox"/> Energy Efficiency
			<input type="checkbox"/> Sustainable Urban Systems and Transport
			<input type="checkbox"/> Technology Transfer
			<input type="checkbox"/> Renewable Energy
			<input type="checkbox"/> Financing
			<input type="checkbox"/> Enabling Activities
		<input type="checkbox"/> Technology Transfer	
			<input type="checkbox"/> Poznan Strategic Programme on Technology Transfer
			<input type="checkbox"/> Climate Technology Centre & Network (CTCN)
			<input type="checkbox"/> Endogenous technology
			<input type="checkbox"/> Technology Needs Assessment
			<input type="checkbox"/> Adaptation Tech Transfer
		<input type="checkbox"/> United Nations Framework on Climate Change	
			<input type="checkbox"/> Nationally Determined Contribution

Annex 14: Overview of Technical Consultancies and Roles and responsibilities of project staff

Consultant (estimated consultancy fee)	Estimated duration	Brief account of the proposed Tasks/Outputs
Project Management		
Local / National contracting		
Project Manager Rate: \$2,843/month	60 months / over 5 years	<p>Coordination Tasks: overall management of the project, including the mobilization of all project inputs, supervision over project staff, consultants and sub-contractors. Leads the Project Management Unit (PMU) and it is responsible for the day-to-day management of the project activities and the delivery of its outputs and partnerships. Supports and reports to the Project Board and coordinates the activities of all partners, staff, and consultants as they relate to the implementation of the project. Develops annual work plans and budget; ToR and action plan of the staff and monitoring reports; quarterly reports and financial reports on the consultant's activities, all stakeholders' work, and progress; yearly PIRs/AWP; adaptive management of project. Provides technical inputs and ensures the development/implementation of SESA and targeted assessments and associated management plans, monitoring risk management measures.</p> <p>Technical inputs: (i) Elaboration of methodologies and Study on the land degradation assessment(Act.1.1.4 and Act. 1.1.5); (ii) Inputs into pastures inventory and assessment of degradation (iii) Technical inputs and editing of Guidelines and Manuals developed under Output 1.1. (iv) Technical inputs and editing of the PA Management Plan (Act 2,1,1) (v) Training modules (Output 1.1; Output 1.2; Output 1.3; Output 2.1) (vi) Water diplomacy seminars presentations and inputs into Manual/Guidelines and targeted trainings (Act 3.1.1 and 3.1.2)</p>
Project Financial and Administrative Assistant Rate: \$ 1,232/month	60 months / over 5 years	Tasks: financial and administrative management of the project activities and assist in the preparation of quarterly and annual work plans and progress reports for review and monitoring by UNDP. Assists in: Planning, preparation, revisions, and budget execution documents; contracts of national / local consultants and all project staff, in accordance with UNDP procedures and observing national legislation requirements; quarterly and yearly project progress reports concerning financial issues.
Technical assistance (across components)		
International contracting		
International Chief Technical Advisor (CTA) Rate: \$750/day	150 days/ over 5 years	Tasks (across all components and outputs): Provides technical advice and overall technical strategic guidance to the Project and technical backstopping to the Project Manager. Leads the technical work of the Project Output Coordinators/Project Specialists, Field Coordinators, and team of national and international experts, in support of the realization of the Project Outputs under each component and contributing to the project's adaptive management strategy. Provides strategic technical guidance to the risk monitoring and ensures development of the SESA/ESMF and development of Annual Work Plans and TORs. Provides technical guidance and peer review to international and national experts. Leads the technical group that revise the proposals under the grant scheme (Output 2.3). Writes the Scaling Up and Replication Strategy of the Project (with the support of the other project's specialists)to be presented to the Project Board during the project's final conferences.
Technical Assistance		
Component 1		
Local / National contracting		
Water management Project Specialist (Water related Outputs coordinator) Rate: \$1886/month	54 months/ years 1-5	Tasks (Output 1.2, 1.3 and 1.4) : liaise with the representatives of Water Committee, IFAS and other national partners and project experts to guide the development of the Sustainable Water Management Plans (or Plans for Increased Water Efficiency) in 4 pilot districts based on the assessments and recommendations produced overall under Output 1.1(incl. technical assessment of the water consumption in irrigated areas); the Sustainable Water Management Plans will include monitoring systems and indicators for soil and water use improvement aligned with LDN. The expert will provide ad-hoc technical assistance to project partners in support of the implementation of Water Management Plans in 4 districts (during years 3-5). The 4 Water Management Plans will be developed in the second year of the

		<p>project, will cover the targeted irrigated agricultural land in 4 districts and will account for climate change induced predicted water deficits and will promote LDN in the irrigated agricultural land (outputs 1.2, 1.3). Working in coordination with the other technical experts and Local Field Coordinators and local specialists on water management the expert, the Water Specialist is responsible for supporting implementation of activities on Water management and Land reclamation directions in the 4 targeted districts; Estimates and ensures cost-effectiveness of project interventions on the ground (working together with the expert economists); Develops project monitoring fiches to monitor (together with the key partners) the restoration activities in the targeted degraded 4,700 ha arable land; provides technical assessment and recommendations for improving water infrastructure and soil productivity in irrigated and pasture project areas, reduce soil salinization, improve condition of collector drainage in the irrigated areas in the 2 provinces (Outputs 1.2, 1.3, 2.3). In collaboration with the water technical experts, provides technical inputs for development of recommendations for inclusion of economic incentives for water savings in the current policy/regulatory frameworks. Provides technical information and presentations for various awareness and training events under Output 3.1.1 and 3.1.2, technical support in mapping and identification of water wells (outputs 1.1, 1.3, 1.4). Ensures the implementation of risk management measures, supports development of SESA and ensures implementation of ESMF and ESMP related to risk management measures, concerning risks from the water use planning and demonstration of efficient measures at project sites(Annex 5, SESP).</p>
<p>Pasture/Forest Project Specialist (coordinating the Outputs related to Land use- Pastures-Forest)</p> <p>Rate: \$1886/month</p>	<p>54 months/ years 1-5</p>	<p>Tasks (Output 1.1/1.2/1.4/2.3): Coordinates all the activities and provides technical inputs for the achievement of these outputs. Works together with International LDN consultant, soil specialist and land use planning specialist to support LDN baseline identification and LDN targets in the two regions. Provides support to the identification of “LDN hot spots”; delivers assessments and recommendation of measures for improvement of soil fertility in the pastures and forests areas. Estimates and ensures cost-effectiveness of project interventions on the ground (working together with the expert economists).</p> <p>Tasks: (Output 1.2, Output 1.4, 2.3) Develops Pasture/Forests Monitoring Fiches to observe restoration and reduction of degradation success in the targeted areas under improved management practices, working together with the key partners and farmers associations . Guides and provides technical inputs into the assessments of the existing system of operation of pasture territories under the new Procedure for Using and Leasing Pastures (Decree of the President of Turkmenistan No. 1884 dd. 04.09.2020). Supports legal amendments to the Law on Pastures, Land Code, and supervises the work of technical experts. Supports Pasture inventory and mapping, guides the organization of field missions, liaison with local committees and experts, working closely with the Field Coordinators. Works with the media company in charge of designing radio talk shows for farmers and reviews technical inputs. Provides technical information and presentations for various awareness and training events under Output 3.1.1 and 3.1.2. Ensures the implementation of risk management measures, supports development of SESA and ensures implementation of ESMF and ESMP related to risk management measures , concerning risks from the natural resources use planning and demonstration of SLM measures at project sites(Annex 5, SESP).</p>
<p>Local field coordinator</p> <p>Rate: \$1041/month</p>	<p>54 months/over 5 years</p>	<p>Tasks (Output 1.1.; 1.2; 1.3; 1.4): Working in coordination with the Water and Pasture/Forests related Output Coordinators, the Field Coordinator is responsible for supporting implementation of activities in the targeted district assigned to him/her, to deliver the project’s outputs at local level. Provides technical guidance to project experts and facilitates project inception workshops, liaison with local stakeholders supports trainings and awareness sessions, supports field missions and supports monitoring project results derived from the implementation of various demonstrative measures. In collaboration with project experts , supports development of SESA and ensures implementation and supports development of management plans (ESMP) related to risk management measures concerning risks from water and land use planning and demonstration of efficient measures at project sites(Annex 5, SESP). Ensures that social and environmental grievances are managed effectively and transparently. Review SESP annually and update and revise corresponding risks. Works with M&E office to ensure that monitoring and reporting fully address safeguards issues.</p>
<p>Pasture agronomist (2)</p> <p>Rate: \$80/day</p>	<p>120 days/year 1-5</p>	<p>Tasks (Output 1.2 Output 1.4; Output 2.3): Works in coordination with the Pasture and Forest Specialist, other project experts and local partners. Provides technical support in the identification of pasture resources in the four targeted districts including delineation of the targeted project sites. Provides analysis of trends in the dynamic of pastures condition, pastureland degradation and watering infrastructure . Supports the inventory of pasture lands and watering in the project areas. Classification of pastures by class and type of vegetation. Assistance to the GIS Specialist in the mapping of pastures. Survey of the pasture lands; classification and calculation of fodder reserves. Mapping of pasture forage resources within the selected areas. Development of methods for determining the estimated (ecological) capacity of pastures. Development of sustainable pasture management plans (about 500,000 ha) adjacent to protected areas or including</p>

		KBA/IBA and those in the "free access" mode. Leads the development of the pasture management plans in the targeted area. Provides recommended measures for phyto-melioration of pastures and sustainable grazing techniques; Provides strategic advice and recommendations for the integration of Sustainable Pasture Management Plans into the land use planning (under Output 1.1) and cost-effectiveness of the measures proposed based on the assessment of ecosystem services in BAU and alternative scenario (after implementation of SLM measures); Provides recommendations and drafts proposals to amend existing legal framework in order to introduce subsidies for farmers applying SLM measures; Participates into assessment of the Concepts submitted under the Innovation Challenge proposals and supports work on innovative land restoration. Provides technical guidance to the project team and local field coordination in support of the Pasture Management Plans implementation throughout the project duration. Provides inputs into radio talk shows for farmers. Monitors pasture improvements according to monitoring fiches and liaises with local authorities. Provides inputs into the assessment of the grant proposals (Output 2.3) Provides technical information and presentations for various awareness and training events under Output 3.1.1 and 3.1.2,
GIS Specialist (Water/Land resources) Rate: 100/day	220 days Year 2-5	Tasks (Output 1.1.; 1.2; 1.3; 1.4): Working in coordination with Task Leaders, the Field Coordinator is responsible for supporting implementation of activities in the targeted district assigned to him/her, to deliver the project's outputs at local level. Provides technical guidance to project experts and facilitates project inception workshops, liaison with local stakeholders supports trainings and awareness sessions, supports field missions, and supports monitoring project results derived from the implementation of various demonstrative measures.
Local technical specialist Rate: 100/day	480 days Year 2-5	Tasks (Output 1.2 Output 1.3; Output 1.4; Output 2.3) Supports local Field coordinators in the implementation of activities to achieve the respective outputs. Assistance to technical assessment and analytical reports, interview with farmers, community Outreach and monitoring of the field works (through the grant programme).
Landscape specialist (climate, soil, landscape geography) Rate: \$80/day	40 days/year 2	Tasks (Output 1.1): Assessing the impact of the Aral Sea on the pilot regions and providing recommendations for revising the boundaries of its impact. Spatial-temporal geochemistry of salt from the Aral Sea floor. Assistance with analyzing and decoding data (salt, dust, etc.) of agrochemical laboratories. Assessment of the influence of the meteorological conditions on LDN baseline indicators. Support to identification of "LDN hot spots"; delivery of assessments and recommendation of measures for improvement of soil fertility. Provides technical information and presentations for various awareness and training events under Output 3.1 and 3.2.
Soil specialist (soil scientist) (2) Rate: \$80/day	60 days/year 2-4	Tasks (Output 1.1): - LDN metrics calibration: Review of national and international standards for the assessment of soil chemical analysis. Recommendations and suggestions for improving national standards in order to monitor LDN indicators. - Support to the establishment of Soil Organic Carbon (SOC) baseline; Soil sampling in the targeted districts and validation of LDN SOC indicator; advice with regard to monitoring of soil humus on agricultural lands in accordance to the GOST methodology (Soils. Methods for laboratory determination of organic substance content). Methods for recalculation of humus content indicator, according to SOC indicator. Providing practical advice on the methodology for conducting field research and analysis in support of LDN baseline and target setting.; Analysis of soil chemical composition and recommended methodology to assess soil productivity and degradation trends on irrigated arable lands in targeted areas; support to identification of "LDN hot spots"; delivery of assessments and recommendation of measures for improvement of soil fertility. - providing recommendations for the set-up of a monitoring system of soil quality (and additional indicators measured in Turkmenistan to complement the LDN default indicators) in the project pilot areas which will provide information and highlight the location of degraded agricultural land;
Land use specialists (2) Rate: \$80/day	100 days/year 1 and 2	Tasks (Output 1.1): Works with the International LDN Expert and International Land Use expert and provides technical inputs into the assessment of land degradation trends and analysis of driving forces behind these trends. Provide technical support in the identification and spatial distribution of the main land use types and land cover, and leads the identification of the "LDN hot spots"; delivery of assessments and recommendation of measures for "counterbalancing" land degradation; Provides inputs to develop the strategies on integrating LDN into strategic land use planning process; assist in modelling of land use scenarios, define and validate LDN baseline and establish a mechanism for neutrality, targets and monitoring system, provide recommendations for land use decisions to local authorities

		and provide technical inputs into project's knowledge sharing through the World Overview of Conservation Approaches (WOCAT). Coordinate work with the work of other land use planning experts working in the team under Output 2.3 Support project's multi-stakeholders' engagement during land use planning. Coordinates work with the Pasture Agronomics and supports/provides technical inputs into the calculation of the cost-effectiveness of proposed SLM measures to achieve land degradation neutrality (LDN).
Irrigation and Crop water requirements expert Rate: \$80/day	240 days/Year 1-5	Tasks (Output 1.2 and 1.3) : Assess the existing irrigation norms and their enforcement (the current water use practices) , volumes and timing of irrigation in the 4 targeted districts, existing water plans for irrigated agriculture and develop assessment report and recommendations for improving water use efficiency, optimizing irrigation requirements and timing, considering the predicted climate induced water deficits; assess soil condition (in coordination with the soil experts, LDN expert and other project experts) in the 4 targeted districts. Support the design of sustainable farming measures including crop rotation and intercropping, fertilizers application, considering soil salinization, water needs for soil leaching, improvement of irrigation systems and implementation of water saving technologies. Recommends suitable innovative irrigation technologies applicable in the pilot areas. Provides technical information and presentations for various awareness and training events under Output 3.1. and 3.2.
Agriculture and Agroforestry Specialist Rate: \$80/day	100 days/Years 1-5	Tasks (Output 1.2/Act 1.2.3 and Output 1.4/Act 1.4.1 and Act 1.4.2 and Act 1.4.3) Consultations on the selection and cultivation of tree plants for planting in desert conditions. Restoration of tugai forests on an area of 300 ha. Development of technology for planting seedlings (seeding), irrigation and protection. Supports targeted screening and assessments with regard to safeguards implementation during water demonstration activities. Recommendations for choosing a place for a nursery for saxaul seedlings breeding (or possibly another suitable perennial plant). Assistance in organizing the planting of saxaul from the nursery to desert pasture areas. Recommendations for planting seedlings, watering and protection. Provides technical information and presentations for various awareness and training events under Output 3.1. and 3.2.
Water engineer/monitoring expert Rate: \$100/day	40 days/Year 2	Tasks (Output 1.3 and Output t2.3) : Develop indicators for monitoring and assessment of adequate water allocation quotas among multiple water users, the necessary water ecological flow and timing of water releases in the Amudarya lakes and wetlands. Develops assessment of watering infrastructure of the targeted pasture areas;
Water management expert/hydrologist (2) Rate: \$100/day	100 days/year 1-3	Tasks (Output 1.3 Output 2.1; Output 1.4.) : Provide an assessment of the environmental state of the lakes and water bodies in the targeted areas; provide technical assessment of the losses in fishery resources due to unstable hydrological regime and provide preliminary recommendations; estimates minimum ecological flow needed to preserve the ecological integrity of the lakes and wetlands and to sustain and maintain fish larvae and aquatic biomass; Works with the Agronomists and Water engineering/monitoring and provides an assessment of the condition of water wells (existing watering infrastructure) in the targeted pasture, forest areas and provides inputs into the development of pasture and forest management plans. Supports targeted screening and assessments with regard to safeguards implementation during water demonstration activities. Supports the assessment of the recovery of pasture/forests/degraded land rehabilitation success derived from the implementation of different SLM measures (outputs 1.2, Output 1.4; Output 2.3). Additional tasks: provides technical inputs into the analytical reports and information materials for various awareness events.
Economist/ Land degradation Expert Rate: \$100/day	120 days/ Year 2-4	Tasks (Output 1.1; Output 1.2 and Output 2.3) : Provides analysis and economic estimations of land degradation in project areas to inform LDN target setting and integrated land use planning and cost-effectiveness of project planned interventions ; Provides technical presentations and coaching to local communities in targeted areas, on writing the funding proposals (under Grants mechanism) ; supports the assessment of the cost effectiveness of the SLM measures proposed to be financed under the Grant Mechanism;
Legal/policy expert (Environmental governance) Rate: \$ 100/day	150 days/year 2-5	Tasks (Output 1.1; 1.3; 1.4; 2.1; 2.2; 2.3): Conduct legal and policy framework assessment and prepare the following legal amendments (based on technical recommendations provided by the other technical experts): <ul style="list-style-type: none"> - Prepare the necessary technical inputs and regulatory amendments for the inclusion of Land Degradation Neutrality targets (national and regional) in the updated National Plan to Combat Desertification of the UNCCD (Act 1.1.3), and other national decrees and policies: National Forest Programme, National Action Plan to Combat Desertification . - Develop the necessary bylaws on the Law on Pastures (Act 1.1.3 and Act 1.4.1)

		<ul style="list-style-type: none"> - Amendment to the Land Code and Cadaster to include LDN definition of the concept and LDN targets (Act 1.1.3) - Legal/regulatory/institutional amendments for the institutionalization of the proposed manuals, guidelines, methodologies - Support the regional coordination of national tasks in the Aral Sea basin. Provide recommendations for improving the activities of ICSD IFAS targeting the implementation of the REP4SD. Provide assistance in the institutionalization of land cover monitoring (in terms of integrating LDN indicators into the existing systems). It is an established institutional norm that all enterprises unconditionally comply with (the corresponding indicators shall be included in the approved statistical reporting of Farmer Associations).
Socio-economic and Community Outreach Expert (2) Rate \$80/day	160 days/year 2-5	Tasks (Output 1.2 and 1.3; Output 2.1; Output 2.3; Output 3.1): Supports communication and consultation processes with all affected stakeholder institutions, groups and individuals (local communities); Supports consensus with local communities over restoration methods of degraded irrigated areas and pastureland and forest ecosystems; supports consensus over new PA establishment and improved zoning; supports round table meetings and facilitates participation of local communities in PA/KBAs/IBA sustainable management; Provide support to Local Field Coordinators for the implementation of SES requirements; Estimates socio-economic benefits derived from the SLM under the project grants; Works with the Biodiversity experts to identify risks posed by the legal enforcement related to the designation of new PAs and recommends compensatory measures. Develops and delivers Community Outreach training module to PA staff ; Works with other experts to support creation of ecological corridors where feasible and facilitates engagement with local communities (Output 2.3). Works with the media company hired to support dedicated radio talk shows and participates into the assessment of farmers’ needs, concerns and opinions; provides inputs into the design of the tailored radio talks.
Gender expert Rate: \$80/day	100 days/year 1-5	Tasks (Cross-cutting): Implements Gender Action Plan. Monitors gender mainstreaming across outputs and monitors Gender indicators and gender related safeguards. Provides documentation of gender mainstreaming and assessment of indicators into various reports and assessments.
International contracting		
International LDN expert Rate: \$750/day	100 days; year 1-3	Tasks (output 1.1.). Leads the setting of LDN regional targets in Dashoguz and Lebap. Although the LDN expert will be providing technical expertise mainly to the project’s work within the frameworks of Output 1.1 (especially Act 1.1.4), technical advice will be provided across all outputs. The main tasks are to lead the LDN baseline identification and LDN regional targets setting in Dashguz and Lebap as well as advise on LDN compliant land use planning. In addition, ensures adherence of all the LDN land use planning to the LDN principles and provides strategic guidance to the SESA development. Furthermore, provides technical support to analysis of land degradation trends in the two regions, provides technical recommendations to mainstream LDN targets into land use planning. Supports the development of the LDN Compatible GIS based Land Use Concept ⁷⁹ . Supports the Legal and Policy Expert to prepare the necessary technical inputs for the inclusion of Land Degradation Neutrality targets (national and regional) in the updated National Plan to Combat Desertification of the UNCCD (Act 1.1.3), and other national decrees and policies: National Forest Programme, National Drought Plan. Guides the land use planning experts and pasture/agronomics on LDN principles and counterbalancing measures. Provides technical inputs into information and training materials, explaining the LDN philosophy. Participates in training workshops and seminars (either in person and/or online) , delivers presentations to explain what LDN stands for, to explain LDN target setting process at national and local levels, steps, methodology required and stakeholders engagement . Coaches the team of project experts on LDN matters. Supports project’s multi-stakeholders’ engagement during LDN target setting. Develop the Integrated LDN compatible Land Use Planning Manual and recommendations for the local district authorities in the targeted project areas (in coordination with the Land Use Planning Expert) Additional tasks: Delivers presentations at education and awareness seminars (Component 3) and regional LDN workshop (Output 1.1).
Expert Satellite Image Analyst	40 days/Year 1-3	Tasks (Output 1.1.): Closely working with the International LDN expert and International and national land use planning experts, coaching and building capacities at the national and regional level, providing methodology to ensure national ownership of EO datasets and in-situ

⁷⁹ The LDN compatible GIS based land use concept will include reference to the landscape (natural and cultural), soil, wildlife, biome maps. Each map will include categories of importance (high, medium, low value) along with sensitivity analysis. The land use concept will balance development priorities (economic and social) with conservation objectives in the area given the current status of ecosystems (habitat status, degree of degradation and sensitivity, available ecosystem services).

Rate:\$750/day		measurements for the three indicators (changes on land cover, land productivity and carbon stocks) in support of LDN target setting and monitoring and further UNCCD and SDG reporting. Analysis of satellite imagery and other related LD data, training in photo interpretation and analysis of remote sense images, within the context of LDN target setting and monitoring, to inform national and regional land degradation assessments; Support and guidance in comparing different data sets (e.g. national metrics; global default datasets; other land degradation index) and integrating LDN metrics into existing national datasets; initiating the setting up national land degradation datasets based on developed procedures; training delivery on the use of these national datasets (involving decision makers and technical staff conducting LDN targets monitoring); development of instructions for the use and maintenance of the national data sets.
Hydroclimatic modelling expert Rate: \$750/day	40 days/Years 2-3	Tasks (output 1.3.) : Work with project experts and relevant stakeholders, to provide water allocation analysis and water supply scenarios for irrigated agriculture and biodiversity, in support of the estimation of an optimized water allocation scheme among multiple users the expert will be familiar with the World Bank agreed BEAM (Whatif) model. Provides technical information and presentations for various awareness and training events under Output 3.1.1 and 3.1.2.
International Land use planning expert Rate: \$750/day	100 days; year 1-3	Tasks (Output 1.1): Leads the development of 4 integrated land use planning in the targeted districts and the national land use experts and develops methodologies and approaches that will integrated LDN into the land use planning processes. Provides strategic advice and technical input in support of the identification of the land use planning needs at the local level in the pilot districts and determine mechanisms to integrate land use sustainability in the Integrated Land Use Plans, aligned with LDN philosophy. In addition, ensures adherence of all the LDN land use planning to the LDN principles and provides technical input into SESA. Oversees and provides technical support to different stages of the land use planning under Output 1.1 and leads the development of the LDN compatible Land Use Plans (Act. 1.1.5) at district level in the four districts and works with national and local authorities, supported by other experts. Works in coordination with International LDN expert). Develops the Integrated LDN compatible Land Use Planning Manual and the LDN Compatible GIS based Land Use Concept (supported by the GIS experts) and recommendations for the local district authorities in the targeted project areas. Together with the International LDN expert, provides strategic guidance to the team of experts working on different outputs under Components 1,2 and 3 (Output 1.1 and 1.2; Output 1.3; Output 1.4; Output 2.3 / Act 2.3.1). Facilitates project's multi-stakeholders' engagement during land use planning and delivers training presentations to different events (either in person or using on-line platforms) .
For Technical Assistance		
Component 2		
Local/national contracting		
Protected Areas Project Specialist (PAs related Outputs coordinator) Rate: \$ 1886/ month	60 months/ years 1-5	Tasks (Output 2.1, 2.2, 2.3) Working with the Field Coordinators and technical national experts, the PA Project Specialist is coordinating the protected areas related technical outputs and supports implementation of activities in support of Component 2 and it works with the other Project Output Coordinators (Water and Pastures/Forests) in order to integrate the work on PAs with the land use planning and the work on sustainable land and water resources management in buffer and production zones. Liaises with the national counterparts (relevant departments in the Ministry of Agriculture and Environment Protection and with the PAs management units and NGOs involved in project activities) and provides technical inputs and peer-reviews of the biodiversity assessment and other related reports produced by the national team of experts; support different phases of the preparation of Amudarya State Nature Reserve Management and Business Plans and provides leadership to community outreach activities , facilitating round table meetings and discussion in order to conclude local partnerships and consensus on ecological corridors and biodiversity-friendly agricultural practices in buffer and production areas. Facilitates and support experts' field missions and participates into monitoring of wild ungulates and cross-border species conservation activities; together with the national experts and ministry partners and Academy of Science institutes and different NGOs (involved in project activities), plans species centred conservation activities focused especially on key biodiversity species; supervises activities in support of different Outputs under Component 2; oversees assessments of KBAs/IBAs in project areas and preparation of justification for designation of new protection areas (new protection regimes) of selected KBAs/IBAs; ensures coordination and regular meetings with the ministry partners and promotes stakeholders participatory approaches and women and youth participation into the project activities; Coordinates with the Ministry counterparts and ensures that training activities (Act 2.1.3) are implemented according to the work plan; supervises training development modules ensuring the adoption of new and diversified learning approaches tailored to the PAs staff positions requirements; ensures translation of IUCN good practices guidelines in PAs management into local languages and supports the

		procurement of filed pocket guides for identification of flora and fauna for each PA; Supervises the grant mechanisms (development, selection, approval and implementation) and coordinates with the International technical Advisor, the National Economist on Agrobiodiversity and other technical experts for the monitoring of approved SLM measures under grant proposals. Ensures the implementation of SESA and appropriate targeted screening, assessments and risk management measures related to the activities that trigger Biodiversity and Displacement and Resettlement Standards. Supports Process Framework as needed, and ensures that local communities are aware about the project Grievance and Redress Mechanism.
Local field coordinator Rate: \$1041/month	54 months/ years 1-5	Tasks (Output 2.1, 2.2, 2.3): The Field Coordinator is responsible for supporting implementation of activities in the targeted district assigned to him/her, to deliver the project's outputs at local level. Provides technical guidance to project experts and facilitates project inception workshops, liaison with local stakeholders supports trainings and awareness sessions, supports field missions and supports monitoring project results derived from the implementation of various demonstrative measures. Ensures the implementation of risk management measures, in collaboration with project experts supports development of SESA and ensures implementation of management plans ESMP, related to water and land use planning and demonstration of efficient measures at project sites(Annex 5, SESP). Ensures that social and environmental grievances are managed effectively and transparently. Review SESP annually and update and revise corresponding risks. Works with M&E officer to ensure that monitoring and reporting fully address safeguards issues.
Local technical assistant Rate: \$100/day	480 days/ Years 1-5	Tasks (Output 2.1, 2.2, 2.3) Works with the Local biodiversity management/PAs experts and Filed coordinator in support of activities under Component 2. Provides coordination to field missions and liaises with local authorities and PAs staff . Provides inputs into project reports and information materials and supports research and monitoring activities.
Biodiversity management/Protected Areas local expert (2) Rate: \$100/day	240 days/Years 1-5	Tasks (Output 2.1, 2.2; 2.3): Coordinates PA work at local level and supports integration of biodiversity conservation and management into the wider landscape planning, assessing risks to biodiversity posed by agricultural practices, extractive industry, tourism industry and illegal activities and recommends measures mitigate risks. Supports updates of the existing PAs management plans and integrating targeted research and monitoring aligned with PAs management objectives. Supports the Training Needs Assessments (TNA) and provides technical inputs into the development of the PA training materials. Works with the Ecotourism Technical Expert and other experts, to assess ecotourism potential of the existing and newly proposed PAs under the project scope. Supports preparation of cadastre and scientific information material for the new PAs; and development of methods for decreasing negative anthropogenic impacts around KBAs/IBAs and in the targeted PAs buffer zone. Provides technical information and presentations for various awareness and training events under Output 3.1.1 and 3.1.2. Supports/ provides technical inputs into the assessment reports (“ Gaps assessment report of the KBAs/IBAs in project areas” and “ Assessment of local ecotourism potential in project area”). Supports the realization of the project video documentary and other KM products. Ensures the implementation of ESMF and appropriate risk management measures related to the activities that trigger Biodiversity and Displacement and Resettlement Standards. Supports Process Framework and ensures that local communities are aware about the project Grievance and Redress Mechanism.
Legal Expert (Protected Areas) Rate: \$100/day	30 days/3 rd year	Tasks (Output 2.1 and 2.2). Technical inputs, advice and draft regulatory amendments as follows: <ul style="list-style-type: none"> - Amendments to the Protected Areas legislation, in order to introduce IBA as a distinct category in the legal PA system (Act 2.2.1) - Amendments related to the designation of new PA (Output 2.3 Act 2.3.1) - Amendments for regulatory adjustments, introducing quotas for limiting the harvest of natural resources in Sanctuaries (Act 2.1.1) - Amendments to the Law on Tourism in view of introducing eco-tourism incentives for local communities (Act 2.1.4)
GIS Specialist (Protected Areas) Rate \$ 100/day	240 days/ Year 2-4	Tasks: Works with team of experts and Task Leaders and Field Coordinators to support habitat mapping, and preparatory work for the targeted PAs/KBAs/IBAs species and habitats inventory, preparation of the justification documents for the new PAs, and supports the geo-referencing for zoning and delineation of the buffer areas.
Zoologist (Wildlife specialist ungulates and predators)	160 days/ years 1-3	Tasks (Output 2.1, 2.2, 2.3): Conducts inventories of mammals, including avian records; establishing key indicator species and monitoring protocols and preparation of feasibility studies. Provides technical inputs into calculation of ecological carrying capacity in core areas (includes work on calculating carrying capacities in the existing PAs). Additional tasks: Provides technical inputs into PAs management plans, supports PAs zoning decisions. Preparation of scientific information material for PAs; development of methods for decreasing

Rate \$ 100/ day		negative anthropogenic impacts for PAs. Contributes to technical inputs into awareness and information materials (Output 3.1). Provides technical information and presentations for various awareness and training events under Output 3.1.1 and 3.1.2.
Ornithologist Rate \$ 100/ day	160 days/ years 1-3	Tasks (Output 2.1, 2.2, 2.3): Conducts avifauna inventories and preparation of feasibility studies in the proposed protected areas, establishing key indicator species and monitoring protocols. Additional tasks: Provides technical inputs into PAs management plans, supports PAs zoning decisions. Preparation of scientific information material for PAs; development of methods for decreasing negative anthropogenic impacts for PAs. Contributes to technical inputs into awareness and information materials (Output 3.1). Provides technical information and presentations for various awareness and training events under Output 3.1 and 3.2.
Herpetologist Rate \$ 100/ day	60 days/ years 2-3	Tasks (Output 2.1, 2.2, 2.3): Conducts herpetofauna inventories and preparation of feasibility studies in the new proposed protected areas, establishing key indicator species and monitoring protocols. Additional tasks: Provides technical inputs into PAs management plans, supports PAs zoning decisions. Preparation of scientific information material for PAs; development of methods for decreasing negative anthropogenic impacts for PAs. Contributes to technical inputs into awareness and information materials (Output 3.1)
Botanist (flora inventories) Rate \$100/day	140 days/ year 2-3	Tasks (Output 2.1, 2.2, 2.3): Conducts botanical inventories of vascular plants and vegetation assessment and preparation of feasibility studies in the proposed protected areas, proposes key indicator species and proposed monitoring protocols. Additional tasks: Provides technical inputs into PAs management plans, supports PAs zoning decisions. Preparation of scientific information material for PAs; development of methods for decreasing negative anthropogenic impacts for PAs. Contributes to technical inputs into awareness and information materials (Output 3.1) Provides technical information and presentations for various awareness and training events under Output 3.1 and 3.2.
Geobotanist (pastures flora inventory) Rate \$100/day	70 days/ years 2-3	Tasks (Output 2.1, 2.2, 2.3): Conduct pasture flora inventory; support the development of tactical grazing techniques; preparation of feasibility studies, provides technical support in the SLM measures implementation and assessment of the vegetation recovery in buffer areas and supports local communities meetings and consensus on biodiversity friendly pastures management. Additional tasks: Provides technical inputs into PAs management plans, supports PAs zoning decisions. Provides technical information and presentations for various awareness and training events under Output 3.1 and 3.2.
Forestry expert Rate \$100/day	120 days/ years 2-3	Tasks (Output 2.1; 2.2; 2.3): Support mapping of the key tugai forest ecosystems in the existing and new proposed PAs and in riparian KBAs/IBAs. Provides technical advice on sustainable forest management in and around PAs and KBAs/IBAs and recommends riparian forest regeneration strategies, proposes monitoring indicators for the assessment of the forest ecosystems recovery. Provides strategic advice and recommendations for the zoning of the PAs (includes technical inputs into the zoning of the new PAs and establishing a new conservation sanctuary and provides technical recommendations for setting up an ecological corridor). Supports local communities' outreach, advising on Sustainable Land Management SLM measures that should be implemented by local communities in the PAs proximity, in production zones. Contributes to technical inputs into awareness and information materials (Output 3.1). Provides technical information and presentations for various awareness and training events under Output 3.1 and 3.2.
Ecologist/Fishery expert Rate \$100/day	80 days/years 2-3	Tasks (Output 2.1, 2.2; 2.3) : Provide an assessment of the existing fishery sector operations, assessment of the existing fishing licenses and environmental state of the lakes and water bodies used by fishery enterprises; provide technical assessment of the losses in fishery resources due to unstable hydrological regime and provide preliminary recommendations (i) potential hydrological regulation of peak discharge that could reduce losses in the fishery resources (ii) works with Water Specialist under Component 1, to support estimation of the minimum ecological flow needed to sustain and maintain lakes and wetlands, fish larvae and aquatic biomass. Provides technical information and presentations for various awareness and training events under Output 3.1. and 3.2.
Environmental (ecosystem) economist Expert Rate \$100/day	100 days/Years 3-5	Tasks (Outputs 2.1, 2.3.): Provides technical inputs into PAs management plans, provides technical inputs into the Business Management Plan and includes at least 2 PES mechanisms for each PA. Works closely with the Ecotourism Technical Expert and supports the assessment of the potential for ecotourism in the two targeted PAs and around KBAs/IBAs under the project scope. Supports Output 2.3. by providing technical assessments of the socio-economic benefits of the implementation of the envisaged SLM measures in the buffer areas and production zones. Ensures the implementation of ESMF and appropriate risk management measures related to the activities that trigger Biodiversity and Displacement and Resettlement Standards. Supports the design of potential compensatory measures.
Ecotourism Technical Expert	100 days/Years 2-4	Tasks (Output 1.1. and Output 3.1) Together with the Environmental economist provides: (i) participatory assessment and mapping of important ecosystems that hosts key biodiversity species in the targeted PAs and KBAs/IBAs. (ii) mapping out existing tourism destinations,

Rate \$ 100/day		and local infrastructures, existing and intended tourism investments in the project area and local community awareness, interest and participation in eco-tourism; (iii) develops an Assessment Report on the Potential for Ecotourism in the two targeted PAs (Gaplangyr and Amudarya reserves) and the newly proposed Protected Areas and KBAs/IBAs under the project scope. The report will include practical recommendations for policy and regulatory amendments to promote eco-tourism; investments for the development of eco-tourism infrastructure and recommendations to include identified key ecotourism itineraries within the broader tourism circuits; includes recommendations for safe tourism in the targeted areas according to applicable safety standards, norms and regulations in the country; The report will further include a roadmap for implementation of proposed measures and involvement of private sector and local NGOs. The Ecotourism Expert will develop tailor made training modules for the local communities in the project PAs/KBAs/IBAs area and will deliver the trainings (under Output 3.1).
National Economist on Agrobiodiversity (Grants component manager) Rate \$100/day	160 days/Years 2-5	Tasks (Outputs 2.3.): Provides leadership to Output 2.3 and manages the Grant scheme. Works together with the International Technical Advisor and Pasture Agronomist, Forests Specialists and Water and Forests Specialists under Component 1 and coordinates closely with the PAs experts and Environmental (ecosystem) economist and delivers coaching to farmers prior to the launching of the calls for proposals under the Grants Scheme on SLM measures and cost effectiveness. Works with the International Economist and provides final quality check on the cost-effectiveness of the proposed SLM measures prior to the final approval of the micro-grants. Delivers trainings on the calculation of cost-effectiveness of the SLM measures proposed to be funded under the Grant scheme; reviews proposals applications and checks cost-effectiveness of the envisaged measures, and participates to final selection of proposals; together with the assigned project experts (e.g. M&E Expert, Pasture/Forest experts) is monitoring the results from the point of view of socio-economic benefits of the results; provides technical inputs to compilation of good practices to be shared via available platforms such as WOCAT. Participates/ facilitates round table meetings of the “Champions of the Sustainable Land Use Management” in order to facilitate sharing of good SLM practices and farmer-to-farmer experience. Provides technical information and presentations for various awareness and training events under Output 3.1.1 and 3.1.2. Ensures the implementation of SESA and appropriate risk management measures described in the ESMP, related to the activities that trigger Biodiversity and Displacement and Resettlement Standards. Supports the design of potential compensatory measures
Capacity Development for PAs experts (TNA) Rate \$100/day	40 days/ year 1-5	Tasks (Output 2.2): Conducts Training Needs Assessment
PAs inspection and patrolling expert (2) Rate \$100/day	100 days/year 2-5	Tasks(Output2.2).: Develops and delivers Training modules to ecological inspectors, PAs rangers, border police and other PA staff; develops a workplan for the targeted reserves (Gaplangyr and Amudarya and sanctuaries) to counteract illegal activities, poaching and unsustainable harvesting of natural resources; supports community outreach and round table discussions with border inspectors on the need to implement transboundary cooperation measures under the Bonn Convention (CMS). Ensures the implementation of appropriate risk management measures, as per SES requirements, related to the activities that trigger Human Rights Principles and Biodiversity Standards (e.g. Risk 4/ Annex 5 SESP).
Land Use Planning Specialist Rate: \$100/day	30 days/ year 2-3	Tasks (Output 2.1): Supports the mapping of the main KBAs/IBAs and the development of the management plans of the Amudarya Reserve, working together with the Landscape specialist and the LDN and land use planning experts under Component 1, helps the integration of the PAs/KABs and the surrounding production zones, and provides technical inputs into zoning and delineation of buffer areas. Supports the project’s multi-stakeholders’ engagement during land use planning.
International contracting		
International economist (Grant scheme) Rate \$ 750/day	20 days/years 2-3	Tasks (Output .2.3): Works with the International Technical Advisor and national economist and peer reviews the cost effectiveness of the funding proposals for quality assurance and transparency (Act 2.3.2).
Component 3		
Local / National contracting		

Knowledge Management Project Specialist (Coordinator Outputs 3.1 and 3.2) Rate: \$1886/month	60 months, years 1-5	Tasks: Working with the other experts, the International technical Advisor and Project Manager, the Knowledge Management Project Specialist is responsible for the implementation of the KM Plan and coordination of Output 3.1 and 3.2 . Provides technical inputs into the information materials and peer-reviews analytical reports systematizing the project generated knowledge; oversees the organization of various KM/communication events and facilitates conferences and workshops; oversees activities implemented in support of the national delegation to IFAS; oversees and reviews the institutional and legal recommendations to improve institutional arrangements for the implementation of various components of IFAS programmes in the country. Ensures that TORs for the subcontractors (e.g. PR/media company) includes specific provisions related to mandatory research and consultation with local farmers that are part of vulnerable groups (women, youth, elderly veterans, women headed households; small farmers living in remote areas) in order to reflect their needs in the awareness raising activities and in the development of targeted radio programmes for farmers.
Knowledge Management Consultant Rate: \$100/day	120 days during years 3 and 5	Tasks (Output 3.2): Undertakes a systematization of the project's generated knowledge. Supports the International Technical Advisor and Knowledge Management Project Specialist to develop the Scaling Up and Replication Strategy of the Project. Supports implementation of the Knowledge Management Plan.
Communication Specialist Rate: \$100/day	365 days/ year 1-5	Tasks (Output 3.1; Output 3.2)): Responsible for the implementation of the communication and awareness activities and the implementation of the Communication Plan. Supports the Knowledge Management Project Specialist in the implementation of awareness campaigns and all the KM activities under Component 3. Ensures that TORs for the subcontractors (e.g. PR/media company) includes specific provisions related to mandatory research and consultation with local farmers that are part of vulnerable groups (women, youth, elderly veterans, women headed households; small farmers living in remote areas) in order to reflect their needs in the awareness raising activities and in the development of targeted radio programmes for farmers.
M&E Programme Monitoring Expert (GEB) Rate: \$ 100/day	60 days/ years 3-5	Tasks (Output 3.2) Keeps track of the progress towards the GEB (Global Environmental benefits); compiling results from different Component coordinators and monitoring of the indicators under the Results Framework; monitors GEF Core Indicators, operating updates and oversee other activities as per the M&E plan. Monitoring of environmental and social risks. Provides advice to Task Leaders, Field Coordinators and relevant project experts related to progress towards GEB.
Institutional coordination Specialist/Regional water management issues Rate \$100/day	120 days/Years 2-5	Tasks (Output 1.3, Output 3.1) Works with water specialists and with IFAS representatives, facilitates consensus on sustainable water management measures promoted by the project, recommends institutional measures necessary to incorporate ecological flow requirements into current water management and mainstreaming of water monitoring indicators into the current institutional setup; the institutional development expert will further develop the draft Inter-institutional agreements between Water Committee and Ministry of Agricultural & Environmental protection , in order to establish an appropriate water supply regime for the project area and ensure the adequate environmental releases of water to prevent desiccation of water bodies in the middle and lower streams of Amudarya (outputs 1.3 and 2.3). Based on assessments and reports develops and discusses a new approach on water availability in the mid and lower reaches of Amudarya, aligned with IWRM principles to be discussed with all key stakeholders; provide consultation & technical inputs into the information materials for various awareness events, into water users and water managers training materials (Output 3.2). Support to Turkmenistan's representatives in IFAS for the integration of corresponding institutional and legal recommendations to strengthen IFAS (Output 3.1). Delivers presentations to Water Diplomacy Seminars (Act 3.1.1).
National M&E Expert Midterm Evaluation Rate: \$80/day	20 days / over 2 months (year 3)	Tasks: conduct the mid-term project review jointly with the International M&E Expert and following UNDP and GEF guidelines. Key Deliverables: mid-term project review report.
National M&E Expert Final evaluation Rate: \$80/day	30 days / over 3 months (year 5)	Tasks: conduct the terminal project evaluation jointly with the International M&E Expert and following UNDP and GEF guidelines. Key Deliverables: terminal project evaluation report.
Local extension expert Dashoguz	120 days/year 2-5	Tasks (Output 3.1/Act 3.1.1) strengthen the local offices of the Ministry of Agriculture and Environmental Protection, who currently provide advice for state crop sector or other research institutes who are operating under the Ministry of Agriculture and Environmental Protection

Rate \$100/day		auspices. The support services will be provided to the emerging class of private farmers (Daikhan associations) who will operate on longer term lease and have the option of making their own crop choices. They will be provided in relation with legal advice on land tenure aspects and with technical advice on SLM measures, on how to write a loan/bank applications and farm business plans. The local extension expert must ensure that small farmers associations located in remote areas and/or vulnerable groups do benefit from these extension services.
Local extension expert Lebap Rate: \$100/day	120 days/year 2-5	Tasks (Output 3.1/Act 3.1.1) strengthen the local offices of the Ministry of Agriculture and Environmental Protection, who currently provide advice for state crop sector or other research institutes who are operating under the Ministry of Agriculture and Environmental Protection auspices. The support services will be provided to the emerging class of private farmers (Daikhan associations) who will operate on longer term lease and have the option of making their own crop choices. They will be provided in relation with legal advice on land tenure aspects and with technical advice on SLM measures, on how to write a loan/bank applications and farm business plans. The local extension expert must ensure that small farmers associations located in remote areas and/or vulnerable groups do benefit from these extension services.
International contracting		
Short terms international experts (UNCCD; FAO; UNDP; GEF; United Nations Regional Centre for Preventive Diplomacy in Central Asia UNRCCA Rate: \$750/day	20 days/ Years 2,3,5	Tasks (Output 1.1; Output 3.1) : Provides presentations on the best international practices on land degradation, SLM, water management and integration of land-water-biodiversity resources; delivers explanations on LDN concept, principles and implementation through Sustainable Land Management (SLM) and Integrated Land Use Planning; delivers presentations in the Water Diplomacy seminars; facilitates discussions and exchange of information and international best practices; facilitates distinct sessions within the framework of the regional workshop on LDN (Output 1.1.) among countries with experience in the target setting and implementation of regional LDN targets; facilitates South-South exchange.
M&E Expert Rate: \$700/day	20 days / over 2 months (year 3)	Tasks: conduct the mid-term project review jointly with the national M&E Expert and following UNDP and GEF guidelines. Key Deliverables: mid-term project review report; management responses document.
M&E Expert Rate: \$700/day	30 days / over 3 months (year 5)	Tasks: conduct the terminal project evaluation jointly with the national M&E Expert and following UNDP and GEF guidelines. Key Deliverables: terminal project evaluation report; management responses document.

Terms of reference

Project Board

The Project Board (PB) will serve as the project's decision-making body. It will meet according to necessity, at least four times each year, to review project progress, approve project work plans and approve major project deliverables. The PB is responsible for providing the strategic guidance and oversight to project implementation to ensure that it meets the requirements of the approved Project Document and achieves the stated outcomes. The PB's role will include:

- Provide strategic guidance to project implementation.
- Ensure coordination between various donor funded and government funded projects and programmes.
- Ensure coordination with various government agencies and their participation in project activities.
- Approve annual project work plans and budgets, at the proposal of the Project Manager.
- Approve any major changes in project plans or programmes.
- Oversee monitoring, evaluation and reporting in line with GEF requirements.
- Ensure commitment of human resources to support project implementation, arbitrating any issues within the project.
- Negotiate solutions between the project and any parties beyond the scope of the project.
- Ensure that UNDP Social and Environmental Safeguards Policy is applied throughout project implementation; and, address related grievances as necessary.

These terms of reference will be finalized during the Project Inception Workshop.

Coordination Committee at District (etrap) level

Based on the experience of previous projects, it is recommended that a Coordination Committee of stakeholders in each pilot district be set-up, comprising sector specialists in Agriculture, Water and Livestock, Environment as well as representatives of the farmers, water and livestock associations, PAs in the pilot areas. It is recommended that the membership of this committee will be nominal (i.e. personal nomination rather than institutional). The committee will meet bi-monthly (i.e. every two months) to review the progress, identify problems in achieving the development outcomes and milestones, facilitate coordination across sector agencies and programs, help resolve conflicts over resource use and develop future plans for the relevant pilot sites landscape. The minutes of the meeting must be recorded, will contain follow up actions and responsibilities. The meetings will be facilitated by Field Coordinators, Project Specialists and Project Manager. The Committee will be chaired by representative of the IP (Ministry of Agriculture and Environment Protection).

The terms of reference, composition of the committee will be refined during the project inception phase.

Roles and Responsibilities of project staff

Project Manager

The PM will be responsible for the overall management of the Project, including the mobilisation of all project inputs, supervision over project staff, consultants and sub-contractors.

It is the PM's primary responsibility to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost. The Project Manager will inform the Project Board and the Project Assurance roles of any delays or difficulties as they arise during implementation so that appropriate support and corrective measures can be adopted.

Roles and Responsibilities

- Manage the overall implementation of the project.
- Plan the activities of the project and monitor progress against the approved workplan.
- Execute activities by managing personnel, goods and services, training, and low-value grants, including drafting terms of reference and work specifications, and overseeing all contractors' work.
- Monitor events as determined in the project monitoring plan, and update the plan as required.

- Provide support for completion of assessments required by UNDP, spot checks and audits.
- Manage requests for the provision of UNDP financial resources through funding advances, direct payments or reimbursement using the FACE form.
- Monitor financial resources and accounting to ensure the accuracy and reliability of financial reports.
- Monitor progress, watch for plan deviations, and make course corrections when needed within project board-agreed tolerances to achieve results.
- Ensure that changes are controlled and problems addressed.
- Perform regular progress reporting to the project board as agreed with the board, including measures to address challenges and opportunities.
- Prepare and submit financial reports to UNDP on a quarterly basis.
- Manage and monitor the project risks – including social and environmental risks – initially identified and submit new risks to the Project Board for consideration and decision on possible actions if required; update the status of these risks by maintaining the project risks log.
- Capture lessons learned during project implementation.
- Prepare revisions to the multi-year workplan, as needed, as well as annual and quarterly plans if required.
- Prepare the inception report no later than one month after the inception workshop.
- Ensure that the indicators included in the project results framework are monitored annually in advance of the GEF PIR submission deadline so that progress can be reported in the GEF PIR.
- Prepare the GEF PIR.
- Assess major and minor amendments to the project within the parameters set by UNDP-GEF.
- Monitor implementation plans including the gender action plan, stakeholder engagement plan, and any environmental and social management plans.
- Monitor and track progress against the GEF Core indicators.
- Support the Mid-term review and Terminal Evaluation process.
- Ensure mitigation of all the risks. Engage with national counterparts and advocate for formal approval of submitted documents, reports, guidelines, manuals, plans and legal and policy amendments. Enlist Project Board support for sustainability of project results. Involve the support of UNDP RR/DRR and organize regular meetings with the higher-ranking representatives of the IP in order to advocate for sustainability and institutionalization of project results.

Qualifications required:

- A university degree (MSc or PhD) in a subject related to natural resource management or environmental sciences or Sustainable Land Management (SLM).
- At least 10 years of experience in natural resource management
- At least 5 years of demonstrable project/programme management experience.
- At least 5 years of experience working with ministries, national or local level institutions that are concerned with natural resource and/or environmental management.
- Competencies
- Strong leadership, managerial and coordination skills, with a demonstrated ability to effectively coordinate the implementation of large multi-stakeholder projects, including financial and technical aspects.
- Ability to effectively manage technical and administrative teams, work with a wide range of stakeholders across various sectors and at all levels, to develop durable partnerships with collaborating agencies.
- Ability to administer budgets, train and work effectively with counterpart staff at all levels and with all groups involved in the project.
- Ability to coordinate and supervise multiple Project Implementation Units in their implementation of technical activities in partnership with a variety of subnational stakeholder groups, including community and government.
- Strong drafting, presentation and reporting skills.
- Strong communication skills, especially in timely and accurate responses to emails.
- Strong computer skills, in particular mastery of all applications of the MS Office package and internet search.
- Strong knowledge about the political and socio-economic context related to the Indonesian protected area system, biodiversity conservation and law enforcement at national and subnational levels.
- Excellent command of English and local languages.

International Chief Technical Advisor

The Chief Technical Advisor (CTA) will be responsible for providing overall strategic advice to the Project Manager and technical supervision and advice to the Project Specialists (Outputs coordinators), Field Coordinators and team of national and international experts, in support of the realization of the Project Outputs under each component and contributing to the project's adaptive management strategy. The CTA will support the provision of the required technical inputs, reviewing the technical aspects included in the Terms of Reference and peer-reviewing the outputs of consultants and other sub-contractors, as necessary.

Duties and Responsibilities

- Provide technical support to the Project Specialists, Field Coordinators and Project Manager and other government counterparts in the areas of natural resources management (LDN/land use, Pastures/Forests and Biodiversity); supports work planning including site activities, monitoring, and impact assessment.
- Support the Project Manager in preparing Terms of Reference for consultants and sub-contractors.; Supports SESA development and implementation (as per SES requirements);
- Supports the peer-review of the technical reports provided by the team of national and international consultants; works with the lead consultants to ensure that the reports include practical recommendations for national counterparts.
- Support the Project Manager in coordinating the work of all consultants and sub-contractors, ensuring the timely delivery of expected outputs, and ensuring an effective synergy among the various sub-contracted activities.
- Assist the project Specialists and Project Manager in the preparation of the Project Implementation Review/Annual Project Report (PIR/APR), inception report, technical reports, quarterly financial reports for submission to UNDP, the GEF, other donors and Government Departments, as required.
- Assist the Project Specialists and Project Manager on clarifying the technical work with project partners, donor organizations, NGOs and other groups to ensure effective coordination of project activities.
- Support the Project Manager in documenting lessons from project implementation and make recommendations to the Steering Committee for more effective implementation and coordination of project activities.
- Writes the Scaling Up and Replication Strategy of the Project (with the support of the other project's specialists) to be presented to the Project Board and during the project's final conferences.
- Perform other tasks as may be requested by the National Project Coordinator and Project Manager.

Qualifications

- University education (MSc or PhD) in environmental sciences with specific expertise in the area of Natural resources Management, Livelihoods, Sustainable Land Management (SLM).
- At least 15 years of professional experience in natural resource management and rural entrepreneurship/ rural livelihoods.
- Demonstrable experience in implementing similar GEF or other multilateral donor-funded projects.
- Effective negotiation skills, with excellent oral and presentation skills.
- A good working knowledge of international best practice in natural resource management planning is a must.
- Excellent writing skills.
- Excellent English skills are required for this assignment; working knowledge of Russian is an asset.

Project Financial and Administrative Assistant

Roles and Responsibilities

Under the guidance and supervision of the Project Manager, the Project Financial and Administrative Assistant will carry out the following tasks:

- Assist the Project Manager in day-to-day management and oversight of project activities.

- Keep records of project funds and expenditures, and ensure all project-related financial documentation are well maintained and readily available when required by the Project Manager.
- Review project expenditures and ensure that project funds are used in compliance with the Project Document and national financial rules and procedures.
- Validate and certify FACE forms before submission to UNDP.
- Provide necessary financial information as and when required for project management decisions.
- Provide necessary financial information during project audit(s);
- Review annual budgets and project expenditure reports, and notify the Project Manager if there are any discrepancies or issues;
- Consolidate financial progress reports submitted by the responsible parties for implementation of project activities;
- Liaise and follow up with the responsible parties for implementation of project activities in matters related to project funds and financial progress reports;
- Assist the M&E and Safeguards Officer in matters related to M&E and knowledge resources management;
- Assist in the preparation of progress reports;
- Ensure all project documentation (progress reports, consulting and other technical reports, minutes of meetings, etc.) are properly maintained in hard and electronic copies in an efficient and readily accessible filing system, for when required by the Project Board, UNDP, project consultants and other PMU staff;
- Provide PMU-related administrative and logistical assistance.
- Assist in the preparation of progress reports;

Qualifications required:

- A Bachelor's degree or an advanced diploma in accounting/ financial management;
- At least five years of relevant work experience preferably in a project management setting involving multi-lateral/ international funding agency. Previous experience with UN project will be a definite asset;
- Proficiency in the use of computer software applications particularly MS Excel;
- Excellent language skills in English (writing, speaking and reading).
- Very good inter-personal skills;
- Proficiency in the use of computer software applications especially MS Word and MS Excel.
- Excellent language skills in English (writing, speaking and reading) and in local languages

Project Specialists

The Project Specialist will serve as the project leading expert on technical aspects related to the assigned thematic areas. Under the overall supervision and guidance of the Project Manager and in close coordination with the International Technical Advisor, the Project Specialist will have the responsibility for leading the related outputs in the respective field, and the implementation of project activities that will be leading to these outputs, provide technical backstopping and monitoring of the realization of these outputs.

Roles and Responsibilities for all the Project Specialists

- Participate in the planning, prioritizing, and sequencing of the project component activities in close coordination with the Project Team
- Supervise the contracting and technical work of all the national and local experts supporting the respective Outputs. Ensure quality-assurance of all technical deliverables. Ensures risk management and monitoring as per SES requirements;
- Develop and update detailed implementation planning of the achievement of the related outputs under the guidance of the Project Manager and International Technical Advisor and in close consultation with the Field Coordinators and other project staff and ensure the implementation of activities related to water management
- Coordinate and supervise technical inputs relating to component activity design, development, and implementation. This will include preparation of TORs and subcontract tender documents and assessment of quality of consultant/contractor outputs.
- Prepare and/or edit and supervise preparation of the knowledge management products relevant to water management

- Regularly meet with Field Coordinators located within targeted project sites, project partners, responsible for implementation of component activities to discuss progress on progress and ensure that there is a common understanding of the direction of the project.
- Under the guidance of the Project manager and International Technical Advisor, monitor, review, assess and report on all dimensions of project component activity implementation.
- Prepare relevant sections of Annual Work Plan and regular progress reports (including annual APR/PIRs and quarterly progress reports) on project results and outcomes related to his/her assigned Outputs and thematic area.
- Support Project Manager and International Technical Advisor in updating the work plans and budget of the project component, as well as tracking the expenditures and delivery rate of the project in relation to his/her Outputs.
- Closely work with relevant project component staff in building their capacity in all areas related to the management and regular monitoring of the assigned Outputs.
- Important note ! Ensure risk mitigation and sustainability of results, together with the project manager. Involve DRR/RR and organize regular high-level meetings with the higher-ranking representatives of the IP (Ministry of Agriculture and Environment Protection), as needed, in order to advocate for prioritization of the necessary formal approval of the project outputs that will lead to the agreed development outcomes, as listed in the officially signed Project Document.

a) Specific tasks for the Water management (Hydrologist) Project Specialist coordinating the Outputs and activities related to Water Management

- ✓ Output 1.1./Act. 1.1.4: Participate and support other experts- as needed- in the identification of LDN hot spots and assessment of the drivers of land degradation (with focus specifically on degraded irrigated arable land);
- ✓ Output 1.1/Act 1.1.5: Participate and support other experts- as needed- in the development of Integrated Land Use Plans, with focus specifically of the identification of irrigated arable areas to be included in the Integrated Land Use Plans, centred around LDN principles.
- ✓ Output 1.2/ Act. 1.2.1: Lead the necessary activities to achieve the restoration of 4,700 ha of degraded irrigated land; lead/guide the work of other water experts and identify these areas based on LDN hotspots assessments; work with the National Institute for Deserts, Flora and Fauna (NIDFF) to conduct and test restoration measures (5-20 ha) identify the best suitable measures, liaise with national and local key partners to validate the recommended restoration measures and apply these measures on 4,700 ha of degraded irrigated areas;
- ✓ Output 1.2/Act 1.2.4: Participate in the organization of Innovation Challenge; support the review of innovation proposals.
- ✓ Output 1.3: Lead the implementation of all activities and project's work and partnerships under this Output. Ensure the mainstreaming of gender aspects and SES requirements into the water management planning, work with the Gender expert , advocate for women inclusion and participation. Review lessons learned and good practices resulted from other projects and adapt and use the manuals (for example Water Users Groups Manuals, Guidelines, produced by Adaptation Fund projects) and template/guidance for inter-farm works on water and land management produced by the GEF/SCCF project "Supporting resilient livelihoods in agricultural communities in drought prone areas of Turkmenistan" / Resilience Project etc. Supervise the work of external contractors, enlisting support of other water experts, Field Coordinators and safeguards specialists, M&E expert, gender expert. Hire additional supervisors as needed. Guide the work of other water expert and lead the Assessment of the Minimum Ecological Flow required for the maintenance of the ecological integrity of water based KBAs/IBAs in the project area. This assessment is done based on water assessments under Output 1.3 in coordination with activities under Output 2.2 (Act 2.2.1). Provide technical inputs into the development of amendments to the Water Code. Supervise the technical content of all the knowledge products under these outputs (guidelines, concepts, manuals, templates, brochures, reports, workshop proceedings, minutes). Liaise with the relevant authorities for the official approval of the Manuals and Guidelines, for the institutionalisation of these good practices.

- ✓ Output 1.4 and 2.3: Support the assessment of pasture watering infrastructure (part of the pasture inventories under Act 1.4.1 and restoration under Act 1.4.2) and lead/guide the necessary steps for the construction of water wells and rainwater harvesting facilities under Act 1.4.2, Act. 1.4.3 Act 2.1.1 (water wells for wildlife)).
- ✓ Output 3.1/ Act.3.1.1 and Act 3.1.2 and Act 3.2.1: Provide technical inputs into the development of analytical reports for the preparation of the national delegations under IFAs; provide inputs into the preparation of information background documents used in training sessions, education, and awareness seminars and in the process of systematization of project experience and good practices. Facilitate outreach to local communities, and together with the field coordinators and project committees at local level, set up and nurture partnerships with local communities associations, and private entrepreneurs, local authorities and sector experts.

b) Specific tasks for the Agronomist/Project Specialist coordinating the Outputs on Pastures/Forests and Land Management

- ✓ Output 1.1, Output 1.2, Output 1.4, Output 2.3: Lead the implementation of activities and project's work and partnerships under this Output; Ensures implementation of SES requirements related to envisaged project interventions; Under the Outputs 2.3 works together with the Protected Areas Project Specialist. Supervise the technical content of all the knowledge products under these outputs (guidelines, concepts, manuals, templates, brochures, reports, workshop proceedings, minutes).
- ✓ Provide leadership and guide the organization of the activities and field missions of the international and national consultants for the achievement of these Outputs. Participate and provide technical inputs, peer-review technical reports and work closely with the International technical Advisor to strategically guide the LDN target setting in Dashoguz and Lebap.
- ✓ Act 1.1.1 Work with the representatives of the IP and project experts to organize and deliver targeted capacity building for national and regional LDN target setting
- ✓ Act 1.1.2 Facilitate technical round table meetings and consultations with sectoral experts participants in the LDN Working Group, advocate for women participation in the composition of different working groups. Lead the organization of the LDN Regional Workshop, and together with the International technical Advisor and Project Manager, liaise with UNCCD, GEF, UNDP, FAO, CAREC etc and facilitate participation of experts and representatives of these institutions, either in-person or through on-line platforms. With the support of UNDP Istanbul Regional Hub, facilitate participation of UNDP CO and government representatives from countries in the region, to share LDN experience, challenges and opportunities.
- ✓ Act 1.1.3 Work closely with the LDN Working Group and the UNCCD Focal Point in leveraging technical expertise into the National Action Plan on Combating Desertification and other legal and policy inputs into the Land Code, Water Code, Pasture Law etc. as needed, involving all relevant project experts.
- ✓ Act 1.1.4 Work closely with the LDN International and national consultants and provide guidance for the setting of LDN regional targets. With the participation of the project manager, liaise with regional authorities to ensure sustainability of results, forma approvals of the LDN regional targets, LDN Integrated Land Use Plans, LDN action plans, LDN monitoring institutional arrangements to deliver the results.
- ✓ Act 1.1.5 Work closely with the International and national land use planning experts and provide guidance during the development of the Integrated Land Use Plans in the pilot districts. With the participation of the Project manager, ensure sustainability of results and the necessary formal approvals of the plans. Liaise with the relevant authorities for the official approval of the Land Use Manuals and Guidelines (developed to promote LDN principles), for the institutionalisation of these good practices.
- ✓ Output 1.2 and Output 1.4 Guide the work of pastures and forests experts in validating the proposed areas, provide technical inputs into restoration measures and supports the development of pastures management plans (Output 1.4). Develops Pasture/Forests Monitoring Fiches to observe restoration and reduction of degradation success in the targeted areas under improved management practices, working together with the key partners and farmers associations. Guides and provides technical inputs into the assessments of the existing system of operation of pasture territories under the new Procedure for Using and Leasing Pastures (Decree of the President of Turkmenistan No. 1884 dd. 04.09.2020). Supports legal amendments to the Law on Pastures, Land Code, and supervises the work of technical experts. Supports Pasture

inventory and mapping, guides the organization of field missions, liaison with local committees and experts, working closely with the Field Coordinators. Output 1.2/Act 1.2.4: Participate in the organization of Innovation Challenge; support the review of innovation proposals. Facilitate outreach to local communities, and together with the field coordinators and project committees at local level, set up and nurture partnerships with local communities associations, and private entrepreneurs, local authorities and sector experts.

- ✓ Output 3.2 Works with the media company in charge of designing radio talk shows for farmers and reviews technical inputs. Provides technical information and presentations for various awareness and training events under Output 3.1.1 and 3.1.2.
- ✓ Output 3.1/ Act.3.1.1 and Act 3.1.2 and Act 3.2.1: Provide technical inputs into the development of analytical reports for the preparation of the national delegations under IFAs; provide inputs into the preparation of information background documents used in training sessions, education, and awareness seminars and in the process of systematization of project experience and good practices.

c) Specific tasks for the Project Specialist on Protected Areas

- ✓ Output 2.1, Output 2.2, Output 2.3: Lead the implementation of activities and project's work and partnerships under this Outputs; Working with the Field Coordinators and technical national experts supports integration of the work on PAs with the land use planning and the work on sustainable land and water resources management in buffer and production zones. Ensures the implementation of safeguards as per SES requirements for all the project's interventions related to PAs work. Liaise with the national counterparts (relevant departments in the Ministry of Agriculture and Environment Protection and with the PAs management units and NGOs involved in project activities) and provide technical inputs and peer-reviews of the biodiversity assessment and other related reports produced by the national team of experts.
- ✓ Act 2.1.1 Support to different phases of the preparation of Amudarya State Nature Reserve Management and Business Plans Reserves, guide the development of at least two PES schemes for both Amudarya and Gaplanyr, based on the existing economic valuation of ecosystem services in Turkmenistan, and provide leadership to community outreach activities. Works with water experts and research institutes on strengthening the water infrastructure and building water wells for wildlife.
- ✓ Act 2.1.2 and 2.1.3 and 2.1.5 Provides leadership and guidance to the strengthening of infrastructure base, research and monitoring activities, training activities, including strengthening skills to prevent illegal activities, working closely with experts and/or companies delivering the trainings and involving participation of border police and environmental inspectors. Coordinates with the Ministry counterparts and ensures that training activities (Act 2.1.3) are implemented according to the work plan; supervises training development modules ensuring the adoption of new and diversified learning approaches tailored to the PAs staff positions requirements; ensures translation of IUCN good practices guidelines in PAs management into local languages and supports the procurement of field pocket guides for identification of flora and fauna for each PA;
- ✓ Act 2.1.4 Works closely with the eco-tourism expert and peer-reviews the assessments and legal amendments to facilitate eco-tourism, facilitates meetings and consultations with local communities with the support of partner NGOs.
- ✓ Act 2.2.2 Oversees assessments of KBAs/IBAs in project areas and preparation of justification for designation of new protection areas (new protection regimes) of selected KBAs/IBAs; ensures coordination and regular meetings with the ministry partners and promotes stakeholders participatory approaches and women and youth participation into the project activities Supports the preparation of new PAs dossiers in close cooperation with relevant departments of the Ministry of Agriculture and Environment Protection
- ✓ Output 2.3 facilitating round table meetings and discussion in order to conclude local partnerships and consensus on ecological corridors and biodiversity-friendly agricultural practices in buffer and production areas. Facilitates and support experts' field missions and participates into monitoring of wild ungulates and cross-border species conservation activities; together with the national experts and ministry partners and Academy of Science institutes and different NGOs (involved in project activities), plans species centered conservation activities focused especially on key biodiversity species Work closely with the Land-use /Pastures/Forests Project Specialist under Output 2.3. Supervise the organizations of inventories in such a

way that it will be relevant to the project outputs and will contribute to mapping of habitats in view of a better integration of PAs/KBAs and IBAs into surrounding landscape. Supervise the technical content of all the knowledge products under these outputs (PAs Management Plans, training materials, templates, brochures, reports, workshop proceedings, minutes)

- ✓ Act 2.3.2 Supervises the grant mechanisms (development, selection, approval and implementation) working closely with the other Project Specialists on Water and Land resources, as well as economist/Grants component manager. The International Technical Advisor leads the Project expert/Technical Group that will review the proposals and assess the Costs Benefit, peer-reviewed by the International Economist. The PA Project Specialist will participate in the review, approval and monitoring of the implementation of the SLM (Sustainable Land Management) measures under these grants.

d) Specific tasks for the Knowledge Management Project Specialist

- ✓ Output 3.1 and Output 3.2: Leads the implementation of activities and project’s work and partnerships under this Outputs and implements the Knowledge Management Plan. Oversees the work on the national experts and liaises closely with IFAS and other project partners.
- ✓ Act. 3.1.1 Works closely with IFAS and ensures that national priorities are represented in regional programmes, facilitates technical round table “prioritization” meetings and finalisation of the relevant documents put forward by Turkmenistan.
- ✓ Organizes the Water Diplomacy Seminars and facilitates discussions, delivers presentations, and discusses project results, facilitates participation of various technical project experts and research institutes in knowledge sharing.
- ✓ Act. 3.1.2 Guides the organization of the training and awareness activities enlisting the project’s technical experts support and NGOs/external contractors for the delivery of trainings and ensures that technical aspects of the sustainable management of land and water and biodiversity resources in Aral Sea Basin are translated into accessible and reader-friendly layman formats, and that these are accessible in local languages. Together with the communication specialists, ensures the finalization and implementation of the Communication Plan, with support of the external PR/media contractors.
- ✓ Facilitates meetings of the *SLM champions* at local level, and farmer-to-farmer knowledge exchange and together with the Gender expert, advocates for women participation and representations in the trainings and awareness activities; supervises the organization of the fairs and bazaars and women and youth participation.
- ✓ Act 3.1.3 Oversees works of the extension service officers and facilitates sharing of quality technical information and knowledge products, showcasing the project’s good practices.
- ✓ Facilitates MoU with the State Committee on Television, Broadcasting and Cinematography and supervises the realization of radio and TV shows for farmers with a segment for women farmers, ensuring that these are responding to farmers demands. Explores further possibility of financing and partnerships in order to expand these radio talk shows into “Radio extension services”. Facilitates sharing of quality technical information and knowledge products, showcasing the project’s good practices.
- ✓ Act 3.2.1 Oversees the organization of various KM/communication events and facilitates conferences and workshops including participation of national delegations to regional meetings (IFAS); works with other experts and reviews the institutional and legal recommendations to improve institutional arrangements for the implementation of various components of IFAS programmes in the country.
- ✓ Supports the International Technical Advisor develop the *Scaling Up and Replication Strategy* of the Project.
- ✓ Maintains close partnerships with key national counterparts including NGOs involved in project activities, reviews all knowledge products and peer-reviews analytical reports systematizing the project generated knowledge in support of national representatives in IFAS ; Ensures sharing of results and good practices on the available platforms

Qualifications required:

- University degree in the fields relevant to the specific area e.g. field of water management/ engineering (Water Specialist), Agronomy (Pastures/Forests and Land Management Specialist); Biodiversity / Protected Areas

(Protected Areas Specialists); Communication/development studies qualification (Knowledge Management Specialist);

- Relevant experience in project implementation, natural resources management or any other related field;
- Previous experience working with donor-supported project either for the UN or other international organization is a strong asset.
- Experience in the usage of computers and office software packages (MS Word, Excel, etc.).
- Strong professional working capacity to use information and communications technology, specifically including website design and desk top publishing software
- Understanding of illegal wildlife trade, biodiversity conservation, sustainable livelihoods and associated issues;
- Very good inter-personal skills
- Excellent language skills in English (writing, speaking and reading) and in local languages

Field coordinators

Under overall supervision of the Project Manager, two Field Coordinators will be locally recruited (in Dashoguz and Lebap regions) based on a competitive process and will work in the two targeted provinces. The Field Coordinators will be responsible for coordinating the direct implementation of all field-based project activities in the targeted areas, with the support and in close coordination with the District level Project Committees, including the supervision of any field-based local contracted consultants'/service providers and sub-contractors. The two Field Coordinators will report to the Project Manager on all of the project's administrative and management aspects, including political back-up of the relevant authorities, management of risks etc and to the Project Specialists and International technical Advisor on all the technical issues. In addition, the Field Coordinators will be responsible for assisting the field staff of the responsible state institutions in meeting their field-based obligations under each component.

The following duties and responsibilities are envisaged:

- Supervise and coordinate the work of all field-based project staff, consultants and sub-contractors.
- Prepare and revise project work and financial plans.
- Liaise with all relevant field-based government agencies, and all project partners, including donor organizations and NGOs for effective coordination of all project activities.
- Facilitate technical backstopping to field-based subcontractors and training activities supported by the Project.
- Provide inputs into the Combined Project Implementation Review/Annual Project Report (PIR/APR), Technical reports, quarterly financial reports, and other reports as may be required by the PM.
- Report progress of project to the PM.
- Document all field-based experiences and lessons learned.
- Ensure the timely and cost-effective implementation of all outputs under the component.
- Assist relevant government agencies and project partners – including donor organizations and NGOs – with development of essential skills through training workshops and on the job, training thereby upgrading their institutional capabilities.
- Coordinate and assist expert teams and academic institutions with the initiation and implementation of any field studies and monitoring components of the component; and
- Carry out regular, announced and unannounced inspections of all project sites.

Qualifications required:

- A post-graduate university degree in: conservation management, or equivalent, forestry and/or agricultural management, or equivalent.
- At least 5 years of experience in conservation management, forest and/or pasture management and community livelihoods/
- Working experience with the project local stakeholder institutions and agencies is highly desired.
- Ability to effectively coordinate a diverse range of local stakeholders.

- Demonstrable ability to maintain effective communications with different stakeholders, and arrange stakeholder meetings and/or workshops;
- Ability to administer budgets, train and work effectively with counterpart staff at all levels and with all local groups involved in the project.
- Strong drafting, presentation and reporting skills.
- Strong computer skills, in particular mastery of all applications of the MS Office package and knowledge of GIS software.
- Excellent written and oral communication skills; and
- A good working knowledge of local languages is a requirement, while knowledge of English and/or Russian will be an advantage.

Annex 15: Initial Project Procurement Plan

Procurement	Output	Q1	Q2	Q3	Q4
Cross-cutting					
Local technical assistants (2)	All	x			
GIS specialist (1)	All		x		
Information technology Equipment for PMU and project specialists	All	x			
Equipment and furniture	All	x			
Workshop, meetings	All	x	x	x	x
Audio visual and printing	All	x	x	x	x
Component 1					
Pasture agronomist (2)	Output 1.2/1.4/2.3		x		
Landscape specialist	Output 1.1		x		
Soil specialist (2)	Output 1.1			x	
Land use specialist (2)	Output 1.1.		x		
Irrigation and crop water requirements expert	Output 1.2/1.3.		x		
Agriculture and agro-forestry	Output 1.1.			x	
Expert on water management in the irrigation sector (2)	Output 1.2			x	
Legal/policy expert	Output 1.1/1.4/2.3/2.1/3.1	x			
Gender expert	Cross-cutting	x			
International LDN expert	Output 1.1.		x		
International Land Use Expert	Output 1.1		x		
Component 2					
Conservation Biologist (Zoologist/wildlife)	Output 2.1/2.3	x			
Conservation Biologist (Ornithologist)	Output 2.1/2.3	x			
Protected Areas Expert/TNA	Output 2.2		x		
Component 3					
Communication Specialist	Output 3.1	x			
M&E Programme monitoring experts (Global Environment benefits GEB)	Output 3.2				x

Annex 16: Stakeholder Engagement Plan

Stakeholders identification

During the project preparation stage, a stakeholder analysis was undertaken in order to identify key stakeholders, assess their interests in the project and define their roles and responsibilities in the project implementation. The official mandates of key stakeholders are described in Annex 23 Legislative and institutional framework assessment. The stakeholder analysis identified the key stakeholders for the project based on their respective interests and power positions vis-a vis their communities, production capacities, governance structure, academic focus, public mandates, or national policy directives. Consistent with the UNDP Draft Guidance Note⁸⁰ stakeholders are considered as the following: Persons, groups, or institutions with an *interest* in the project or the ability to influence the project outcomes, either positively or negatively. Stakeholders may be directly or indirectly affected by the project. The range of potential stakeholders is diverse and may include target beneficiary groups, locally affected communities or individuals, national and local government authorities, non- governmental organizations (NGOs) (both domestic and at times international), politicians, the academic community, private sector entities, other special interest groups, UN agencies and donors.

The project recognizes that a traditional focus on the protection of natural resources within formal protected areas does not ensure full biodiversity protection nor the realization of global environmental benefits. The management of socio-ecological production landscapes is key to the maintenance of biodiversity levels and attributes and overall sustainable development. Socio-ecological production landscapes, when applied locally, provides a strong basis for sustainable societies

To facilitate the identification of project beneficiaries either in the private sector, or non-governmental organizations and community associations, the analysis gave priority to farmers. These are prominent stakeholders since they are both interested and influential entities in this region, given the extent of their agricultural footprint and the importance of these products to the national economy. Further categorization of the stakeholders in the analysis, allowed for both collective and individual categorization. Notably, the interests and power positions of some stakeholder can be amplified owing to their collective structure and in this case both the extent and the method of engagement with them will vary. At the same time, individual stakeholders can be overlooked when lumped into groups. The stakeholder analysis subsequently provides a detailed list of both types of stakeholders - collective stakeholders as well as individual stakeholders.

Collective stakeholders	
High Power / Low Interest <ul style="list-style-type: none"> • Daikhan associations • Government departments engaged with water management/ SLM and biodiversity management • Water based industries • Educational institutions specializing in ecology and related disciplines • International and local organizations funding initiatives in the region • State and International banks 	High Power / High Interest <ul style="list-style-type: none"> • Small and mid-size farmers • Rural communities/Gengeshliks • PAs/Nature reserves <ul style="list-style-type: none"> • Local district administration • Environmental NGOs • Union of Industrialists and Entrepreneurs of Turkmenistan <ul style="list-style-type: none"> • Society of Hunters and Fishermen
Individual stakeholders	
Low Power / High Interest <ul style="list-style-type: none"> • Department of Agriculture and Environmental Protection 	High Power / High Interest <ul style="list-style-type: none"> • Department of Environmental Protection and Hydrometeorology

⁸⁰UNDP Draft Guidance Note, UNDP Social and Environmental Standards (SES) **Stakeholder Engagement**

<ul style="list-style-type: none"> Local Production Department/ State Committee Water Resources Land Resource Service Forestry Department Other projects active in the region (i.e. Adaptation Fund Project “Scaling resilience”) <ul style="list-style-type: none"> Lebap and Dashoguz Research Institutions 	<ul style="list-style-type: none"> Research and design institutes <ul style="list-style-type: none"> Academy of Sciences of Turkmenistan (Technopark) Nature Conservation Society Union of Industrialists and Entrepreneurs of Turkmenistan Society of Hunters and Fishermen
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Identified stakeholders have community roles directly associated with project objectives and are expected to either serve the project and advise project implementation, or as implementing partners directly involved in the delivery of project objectives. A third group of stakeholders represent direct beneficiaries of the project. It should be notes that some stakeholders are represented across multiple roles.

Stakeholder Engagement Participation Approach

Stakeholder engagement will be carried out according to the following principles that have been identified as significant based on UNDP stakeholder engagement guidelines:

Principle	Stakeholder participation will:
Adding Value	Be an essential means of adding value to the project.
Inclusivity	Include all relevant stakeholders.
Accessibility and Access	Be accessible and promote access to the process.
Transparency	Be based on transparency and fair access to information.
Fairness	Ensure that all stakeholders are treated in a fair and unbiased way.
Accountability	Be based on a commitment to accountability by all stakeholders.
Constructive	Seek to manage conflict and promote the public interest.
Redressing	Seek to redress inequity and injustice.
Capacitating	Seek to develop the capacity of all stakeholders.
Needs-Based	Be based on the needs of all stakeholders.
Flexible	Be designed and implemented in a flexible manner.
Rational and Coordinated	Be rationally planned and coordinated, rather than ad hoc.
Excellence	Be subject to ongoing selection and commitment.

Information, dissemination, consultation and similar activities that took place during the PPG

Throughout the project development, close contact was maintained with stakeholders at national and local levels and most frequently through Zoom calls, bilateral interactions, and small round table meetings to discuss different aspects of the project design and level of involvement of key partners at national and local levels. Numerous consultations with key stakeholders included:

- A series of bilateral discussions with national public institutions notably the UNCCD and UNCBD Focal Points as well as UNCCD Central and Eastern Europe Unit; other representatives of the relevant departments in the Ministry of Agriculture and Environment, State Committee on Water Resources, National Institute of Deserts, Flora and Fauna, Amudarya Nature Reserve and Gaplanyr State Nature Reserve, representatives of International Fund for Saving the Aral Sea (IFAS), different experts collaborating with the Academy of Science, representatives of livestock farmers, Union of Industrialists and Entrepreneurs, international organizations, and NGOs active in the environmental field, in order to collect information on the current

project baseline, consult on proposed project interventions, explore opportunities for synergies, and confirm the commitment of project partners and secure co-financing;

- A series of consultative meeting with local district authorities (khiakims), representatives of local communities and Water users Associations (WUAs), representatives of Local Production Departments and irrigation systems managers, representatives of local branches of domestic banks (Daikhanbank, Hallbank, Senagatbank, Khalkbank, Turkmenbashibank), local representatives of the local forestry enterprises in targeted districts, PAs management units, local NGOs; these local consultations aimed at assessing the feasibility of different interventions, identify limiting factors, and consultatively identify potential solutions.
- The validation workshop has discussed the proposed project strategy and approaches, and provided an opportunity for all interested parties to express views and recommendations for an effective cooperation and sustainability of project results.

Stakeholder Engagement Plan during the Project Implementation

Objectives of the Stakeholder Engagement Plan:

- Identify/validate the roles and responsibility of all stakeholders and ensure their participation in the complete project cycle
- Take onboard the knowledge, experience, and skills of stakeholders to enhance the design and implementation of the project
- Ensure that stakeholders are engaged in the monitoring and reporting of the project.
- Establish a mechanism through which local communities, minorities and other vulnerable groups can raise issues they may face in the implementation of the project.

The project's design incorporates several features to ensure ongoing and effective stakeholder participation in the project's implementation. UNDP is committed to ensuring meaningful, effective, and informed participation of stakeholders in the formulation and implementation of UNDP Programmes and Projects. Principally UNDP requires that its projects are designed with meaningful and effective participation of all stakeholders. This foundation for sustainable development assures that local peoples and other stakeholders play a key role in advancing achievement of the sustainable development goals (SDGs). UNDP's commitment to stakeholder engagement arises from internal policies, procedures, and strategy documents as well as key international human rights instruments, principles and numerous decisions of international bodies, particularly as they relate to the protection of citizens' rights related to freedom of expression and participation. While there is no singular prevailing policy on stakeholder engagement within the national context, stakeholder consultations are commonly associated with project development processes.

The goal of this Stakeholder Engagement Plan is to involve all stakeholders of the project, including women, youth, and NGOs, participating public and private sector entities, as early as possible in the implementation process and throughout project duration, and to facilitate a feedback mechanism which ensures that stakeholders views and concerns informs project direction and adaptive management

Beyond informing stakeholders, the Stakeholder Engagement Plan provides the basis for the establishment of effective communication channels and the building of working relationships necessary for successful project implementation. It seeks to define a technically and culturally appropriate approach to consultation and disclosure. The plan ensures that all key stakeholders are fully familiar with the components of this project and that they remain committed to and supportive of the related activities in the project. To secure their participation in related disclosure activities and knowledge dissemination, the relevant stakeholders will be contacted and engaged with using different strategies and methods that best suit their contributions and interests in the engagement program. The Stakeholder Engagement Plan will be implemented in conjunction with the Gender Mainstreaming Strategy and Action Plan and with the Communication Plan that provides more detailed guidance on helping to ensuring gender equity in the project and responding to the stakeholders' tailored communication needs.

The mechanisms to facilitate involvement and active participation of different stakeholder in project implementation will comprise a number of different elements:

(i) Project inception workshop to enable stakeholder awareness of the start of project implementation

The project will be launched by a multi-stakeholder workshop. This workshop represents another opportunity to provide stakeholders with the most updated information on the project and the project work plan. It will also establish a basis for further consultation as the project's implementation commences. The inception workshop will address a number of key issues including: assist all partners to fully understand and take ownership of the project; detail the roles, support services and complementary responsibilities of the Implementing Partner -Ministry of Agriculture and Environmental Protection, State Committee on Water Resources including the province level subdivisions (Production Departments) of "Dashoguzsuvkhodzhalyk" and "Lebapsuvkhodzhalyk," IFAS and representatives of the Interstate Commission on Sustainable Development (ICSD) and Dashoguz branch of the Executive Committee of IFAS, with Central Amudarya Department of the Association Basin Water Management (BWO); academic institutes from the Academy of Science, the National Institute of Deserts, Flora and Fauna, the Turkmen Agricultural Institute in Dashoguz, the Turkmen State Pedagogical Institute in Turkmenabat, the Engineering and Technological University of Turkmenistan, the Turkmen Agricultural University, the Turkmen State Water Management Research Production and Design Institute "Turkmensuvylymtaslama"; the Design Institute "Turkmengiprozem"; private livestock farmers, water users groups (WUGs) and other farmers associations and daikhan farms; the Union of Industrialists and Entrepreneurs of Turkmenistan; the Nature Conservation Society, the Society of Hunters and Fishermen and the Protected Areas management units; the NGOs will be involved in training, awareness activities and the project will work with the NGO "Bosfor"- a branch of Youth Union, the NGO "Ynanch-Vepa" a major player in promoting sustainable natural resource use among NGO community and local levels CBO and the NGO "Tebigy Kuwwat" a subdivision of Nature Protection Society of Turkmenistan. Other development partners and international NGOs such as GIZ, WWF, WB, FAO, CAREC and Central Asian Desert Initiative (CADI). The project will discuss the roles, functions, and responsibilities within the project structure, including reporting and communication lines, and conflict resolution mechanisms.

The Workshop will also be a forum to: review the project budget; finalize the first annual work plan as well as review and agree on the indicators, targets and their means of verification, and recheck assumptions and risks; provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements; and plan and schedule project meetings for the Project Board.

(ii) Constitution of the Project Board to ensure representation of stakeholder interests in project

A Project Board (PB) will be constituted to ensure broad representation of all key interests throughout the project's implementation. The representation, and broad terms of reference, of the PB are further described in the Section Management Arrangements of the Project Document.

(iii) A collaborative approach to engage local communities

A participatory strategy will be developed and implemented to ensure effective participation at local level, including farmers' associations, livestock farms and other representatives of the local community involved in the development and implementation of project activities. The Stakeholder Engagement Plan will ensure that all stakeholders are aware of the objectives of the project, the proposed activities and the possibilities for their participation in various activities. Various communication techniques and methods will be proposed that are most appropriate for local conditions. The engagement strategy will also contain a mechanism for the provision of technical assistance to farms and livestock farms through various methods, including through the relevant government agencies and the district/etrap administration, through strengthened extension services; through radio/TV talk shows targeted on farmers' needs and local People Councils to facilitate local consultations at Gengeshliks level (settlements). To identify local measures and activities in pilot project districts, a more refined trajectory of stakeholder participation in project activities will be agreed upon at the Inception phase, after the validation of the participating daikhan associations. The participatory method will facilitate the involvement and participation of households of farmers' associations, livestock farms and farms, including vulnerable community members (women, youth, veterans) in the

planning and implementation of project activities. The project team will sign partnership agreements with daikhan associations, and selected pilot livestock farmers and private entrepreneurs.

(iv) A Local Coordination Committee (LCC) of stakeholders at the district/etrap level will be established with the participation of sector specialists in agriculture, water, land, environmental protection and livestock issues working in the pilot regions, as well as representatives of the local administration, daikhan associations, livestock and other farms in the pilot regions. The Committee will meet as needed, but at least once every two months. The task of the committee is to promote progress, resolve identified problems, assist in coordination between relevant departments at the local level, assist in the implementation of the planned project work in accordance with the plan, assisting in resolving conflicts over resource overuse and developing future plans for relevant sites in pilot areas. The minutes of the meeting will include follow up actions and roles and responsibilities in the implementation of these actions. The project team will advocate for women participation and representations in all the consultative bodies and committees and participation in and benefiting from the project activities.

(v) Establishment of a Project Management team to oversee stakeholder engagement processes during project

The Project Management Unit (PMU) - comprising a Project Manager (PM), project Administrative and Financial Assistant (AFA), four Project Thematic Specialists (Output Coordinators) and two Field Coordinators (for each targeted province) supported by local technical assistants and extension officers, will take direct technical and administrative responsibility for facilitating stakeholder involvement and ensuring increased local ownership of the project and its results. The PM, Project Specialists and Administrative and Financial Assistant will be located in Ashgabat to ensure coordination among key stakeholder organizations at the national level during the project period, while the Field Coordinators, Technical Assistants, Extension Officers will be located in the projects targeted regions to ensure closer working relationships with operational field staff of the partner institutions and with the local stakeholders and communities. An international Chief Technical Advisor (CTA) will provide professional and technical backstopping to the PMU and across the project components.

(vi) Project communications to facilitate ongoing awareness of project

The project team will refine, implement and maintain a communications plan, presented as part of a broader Knowledge management Plan (Annex 19) to ensure that all stakeholders are informed on an ongoing basis about the project's objectives; the projects activities; overall project progress; and the opportunities for involvement in various aspects of the project's implementation. This strategy will ensure the use of communication techniques and approaches that appropriate to the local contexts such as appropriate languages and other skills that enhance communication effectiveness. The project will develop and maintain a web-based platform for sharing and disseminating information on sustainable pasture and forest planning and management practices across the project planning domain.

(vii) Stakeholder participation in the project implementation

The key partners will participate into project activities, under different outputs, as proposed in the summary below:

- **Output 1.1/Act. 1.1.1-1.1.2-1.1.3:** the project will cooperate closely with the UNCCD Focal Point who will lead the process of the LDN National target Setting; a series of capacity buildings and policy interventions (such as the support to the development of the National Action Plan on Combating Desertification) will be implemented jointly; key sectoral stakeholders under the LDN Working Group and the Inter-Sectorial Commission on Environmental Protection will be involved in LDN target setting and integrated land use planning processes;
- **Output 1.1/Act 1.1.4:** will focus on the engagement with the local province and district level authorities (kyakimliks) aiming at identification of LDN baseline and drivers of land in the two targeted provinces

and setting LDN regional targets, action plan and monitoring scheme.

- **Output 1.1/ Act 1.1.5:** under this output the project will set up multi-stakeholders platforms , especially with the support of the Local District level Committees, to facilitate the participatory development of the four Integrated Land Use Plans in the targeted districts of Turkmenbashi and Ruhubelent (Dashoguz province) and Deinau and Darganata (Lebap province). Inter-sectorial Integrated Land Use Planning Committees (ILUPCS) will include stakeholders in each interested sector: regional/district level authorities (khyalimliks) of the four targeted districts, regional and district environmental services, services of the socio-economic development at region/local level, representatives of daikhan associations and farmers associations and representatives of the Union of Industrialists and Entrepreneurs (UIET).
- **Output 1.2/ Act 1.2.1** The project will work together with the Ministry of Agriculture and Environmental Protection, State Committee of Water resources, local authorities of targeted districts and with the daikhan associations and private farmers to support planning for the restoration of degraded irrigated areas. The project’s experts and technical staff of the National Institute of Deserts, Flora and Fauna will support local communities to create halophytic pastures and reclaim degraded saline arable land, within the 4,700 ha selected project sites.
- **Output 1.2/Act 1.2.2 and 1.2.3** The project’s partners are local authorities, Dashoguz and Lebap velayats (province) forestry enterprises, the environmental protection departments of the Ministry of Agriculture and Environmental Protection in Turkmenistan, forestry enterprises, local farmers and the staff of Gaplangyr and Amudarya State Nature Reserves.
- **Output 1.2/ Act 1.2.4** Under this output, the project will identify a third party (Responsible Party) for the organization of the Innovation Challenge.
- **Output 1.3** In the selected districts, the project will actively involve the staff of State Committee on Water Resources (national level decision makers) including the province level sub-divisions (Production Departments) of “Dashoguzsuvkhozhalyk” and “Lebapsuvkhozhalyk,” as well as the water management entities operating the Tuyamuyun reservoir (partially represented by Uzbek authorities), the two large irrigation canals (Amu-Bukhara and Karshi) and two large drainage canals (“Makhankulskiy” and “Yuzhny”). At the same time, BWO “Amu Darya”, being an interstate organization (and including water specialists from both countries), performs monitoring, distribution and control of functions (including the use of water intake limits by countries and ecological flows) and will be included in the consultations. The water users (WUAs)/ Water Users Groups (WUGs), farmers’ associations, private entrepreneurs, daikhan associations representatives, local branches of the Ministry of Agriculture and Environmental Protection, the Union of Industrialists and Entrepreneurs and IFAS will be involved in the project activities at every stage of integrated water management planning on approximately 100,000 ha of irrigated cropland with potential of up-scaling the good practices on the 734,850 ha of irrigated land of the two provinces.
- **Output 1.4** Under this output, in order to develop sustainable pasture management regimes, the project will work with shepherds associations, private livestock farmers and district offices of the Land Resource Service, the National Institute of Deserts, Flora and Fauna, the Türkmenyertaslama Design Institute (Turkmengiprozem) of the Ministry of Agriculture and Environmental Protection, representatives of the Union of Industrialists and Entrepreneurs (UIET).
- **Output 2.1** – will include the active participation of the UNCBD Focal Point, the Protected Areas department within the Ministry of Agriculture and Environment Protection, and the management units and staff of the two targeted State Nature Reserves Gaplangyr and Amudarya and their sanctuaries; in addition the project will work with the Nature Conservation Society, and the partner NGOs, as well as the Society of Hunters and Fishermen and private livestock farmers and fishermen around KBAs/IBAs. Cooperation with tourism operators (e.g. tourist organizations and companies such as “Lebapsyakhat” and “Ayan”) to assess feasibility of links with tourism itineraries.
- **Output 2.1/Act. 2.1.5** will support the establishment of the “*Council for the Management of Protected Areas*” to be set-up under the coordination of the Department of Environmental Protection and Hydrometeorology within the Ministry of Agriculture and Environmental Protection, in order to coordinate the implementation of measures to prevent illegal activities, and keep a closer communication with local communities, involving them in as much as possible in the development of

alternative sources of income. The Council will facilitate the creation of joint teams in Dashoguz and Lebap provinces, of gamekeepers together with representatives of United Society of Hunters and Fishermen, the Nature Conservation Society, Central Asian Desert Initiatives (CADI), representatives of Forestry Enterprises and employees of the Ministry of Internal Affairs and environmental protection departments of the province authorities to ensure compliance with anti-poaching measures and involve local population in species monitoring.

- **Output 2.2/Act 2.2.1** Under this output the project will continue working with the relevant departments in the Ministry of Agriculture and Environment Protection and State Committee of Water resources, engaging as much as possible the Deputy Minister in the review and approval of the KBAs/IBAs assessments and the subsequent legal and policy amendments that will be recommended in order to increase protection of KBAs/IBAs and approve of mandatory ecological flow and optimization of water release to water depended KBAs/IBAs in mid and lower Amudarya Basin.
- **Output 2.2/Act 2.2.2** the project will work with the Ministry of Agriculture and Environment Protection and State Committee to ensure approval of the new protected areas. Close engagement with local communities will be part of the process, through the support of the Local People Council as well as the project's partner NGOs and Nature Conservation Society.
- **Output 2.3** The project will promote sustainable land use management and biodiversity friendly agriculture practice in production zones around KBAs/IBAs as well as ecological corridors and buffer areas. Hence, close coordination with local platforms will be important, the project will work with PAs staff, local authorities and forestry enterprises, community representatives and local councils (People Councils), representatives of the Union of Industrialists and Entrepreneurs (UIET). The work at local level will be supported by the district/etrap branches of the Ministry of Agriculture and Environment, project committees and partner NGOs.
- **Output 3.1 and 3.2** Will focus on working closely with the Ministry of Foreign Affairs, the IFAS and its different committees for the inclusion of the national priorities under regional programmes and actions, institutional strengthening of IFAS, leveraging international expertise and best practices. Awareness raising campaigns will be aided by PR/media and cooperation with journalists and supported through an MoU with the State Committee of Turkmenistan for Television, Radio broadcasting and Cinematography. The project will further explore cooperation with technical specialists from different development agencies, as well as with the GEF, UNCCD, UNCBD, United Nations Regional Centre for Preventive Diplomacy for Central Asia (UNRCCA) and experts from the Research Department of the Water Design Institute "Turkemensuvelymtaslama" on discussing regional water management and water diplomacy, building trust and advancing SDG agenda in the region.

A participatory approach will be adopted to facilitate the continued involvement of local stakeholders including the vulnerable and marginalized members of the community (including women and youth) in the implementation of the project activities within the targeted villages. Wherever possible, opportunities will be created to train and employ local residents from villages living in proximity of the sites targeted for project intervention (e.g. sites targeted for improving farming practices in irrigated areas; sites targeted for restoration/rehabilitation of degraded forests and pastures; sites targeted for sustainable pasture and forest management; sites targeted for environmental conservation activities etc.).

(viii) Formal structures to facilitate stakeholder involvement in project activities

The project will also actively seek to establish formalized structures to ensure the ongoing participation of local and institutional stakeholders in project activities. More specifically it will support the establishment of a) LDN Stakeholder Working Group (LDN SWG) under Output 1.1; b) Integrated Land Use Planning District Committee (ILUPDC), under Output 1.1. c) local committees comprising representatives of local self-governing bodies, pastoralists, farmers, women, youth, to discuss PAs designation, zoning and local conservation agreements under Component 3; d) "Council for the Management of Protected Areas" to be set-up under the coordination of the Department of Environmental Protection and Hydrometeorology within the Ministry of Agriculture and

Environmental Protection, in order to coordinate the implementation of measures to prevent illegal activities, and keep a closer communication with local communities, involving them in as much as possible in the development of alternative sources of income; e) MoU with the State Committee of Turkmenistan for Television, Radio broadcasting and Cinematography for the creation of at least 20 radio talk shows “on-demand” addressing farmer’s needs (based upon interviews and focus groups research on the topics of interest for farmers) including a segment for women farmers. e)Parks/Reserve Management committees as an institutional mechanism to improve the communication, collaboration and cooperation between tenure holders, natural resource users and the relevant national, regional and local administrations.

(ix) Awareness and Capacity building

Significant GEF resources are directed at building awareness and capacities of *inter alia*: local resource users and agricultural producers, district-based Ministry of Agriculture and Environment Protection local environmental inspectorates and border police; Protected Areas staff; local authorities (khokims) and their planning and enforcement staff. Wherever possible, the project will also seek to build the capacity of local communities (e.g. local community groups and vulnerable and marginalized segments) to enable them to actively participate in project activities. The project will, wherever possible, use the services and facilities of existing local training and skills development institutions.

Dispute Resolution and Grievance Redress

UNDP adopts the use of a Stakeholder Response Mechanism (SRM) that ensures individuals, peoples, and communities affected by projects have access to appropriate grievance resolution procedures for hearing and addressing project-related complaints and disputes.⁸¹ In compliance with the SRM, this project will also ensure that the processes and associated policies and procedures are implemented with high standards and that the communities in the targeted regions simultaneously benefit from the activities and have a voice in their implementation. It is necessary to note that this project is categorized as a medium risk project (see UNDP SES) and as such the SRM is meant to ameliorate the potential for any conflicts and ensure that there are opportunities to immediately resolve issues so that they do not escalate. An SRM is developed to reduce any loss of trust and a halt to the project activities.

Apart from directly addressing conflicts especially associated with moderate and high-risk projects, the SRM also has the added value that can:

- Improve environmental and social outcomes for local communities and other stakeholders affected by UNDP projects.
- Enhance UNDP's ability to manage risks related to its Social and Environmental Standards, in order to avoid or mitigate social and environmental impacts.
- Ensure that UNDP responds to the concerns of project stakeholders (particularly vulnerable groups that are central to UNDP's programmatic work) with regard to social and environmental risks and impact.
- Ensure feedback and operational learning from the SRM, by integrating SRM requests, responses and ⁸²results into UNDP's results-based management, quality assurance processes; and
- Reflect and advance best practices among development institutions, whose stakeholders (including governments, civil society, indigenous peoples, and international partner agencies) increasingly expect social and environmental grievance resolution processes to be a regular, integrated part of project management.

Although the implementation of an SRM is not anticipated, the grievance mechanism (see below) is intended for use

⁸¹See UNDP Draft Guidance Note, UNDP Social and Environmental Standards (SES) **Stakeholder Engagement**, p. 17. The Stakeholder Response Mechanism helps project-affected stakeholders, UNDP's partners (governments, NGOs, businesses) and others jointly address grievances or disputes related to the social and/or environmental impacts of UNDP-supported projects.

⁸²UNDP, Stakeholder Response Mechanism: Overview and Guidance, p.5

by all individuals, groups, communities, or agencies who may inadvertently be affected by the implementation of this Project. Priority beneficiaries and users of the grievance mechanism are: farm owners, non-government organizations, academia, and private individuals in the LADAB landscape who are considered to have had adverse experiences caused by or exacerbated by the project.

Conflict and Grievance Mechanism

The process to settle conflicts and grievances will be presented in several of the consultations with stakeholders and as part of the ongoing commitment to information sharing processes that will be instituted in the project cycle. Stakeholders will be informed that the implementation of the project specific mechanism will not incur any costs and that the same mechanism remains in place for the duration of the project. Stakeholders will be informed of the following process as outlined below. During the project implementation, they will provide feedback and endorsement for the project specific conflict resolution mechanism. Should grievances and conflicts arise, they should be submitted to UNDP Uzbekistan. The Local Coordination Committee at district level will function as project-level Grievance and Redress Mechanisms (GRM) reporting to the Project Board. These roles and responsibilities will be included in the terms of reference. Registered grievances will be reviewed and managed by the Project Board. To do so, the project will at inception:

- Identify appropriate staff who will aid with responses to conflicts and grievance that may arise from stakeholder.
- Develop and install specific guidelines for use by staff and other personnel who will be assigned to enact various roles for the resolution of any conflict or grievance; and
- Provide formal training to staff and other personnel who have assigned roles to perform in the implementation of the conflict and grievance mechanism.

A grievance mechanism will be additionally incorporated within the on-granting process established within Component 3 (Output 3.2.3) with responsibility to monitor for early detection of grievances. Standard Operating Procedures for recording and addressing community and other stakeholder grievances at the grantee project level will be established.

Operationalizing the Project Approach to Conflict and Grievance in the NIM Context

- *The Concern or Grievance* - Where a grievance or concern is experienced or identified as resulting from the project interventions, it is expected that this matter will be immediately conveyed to a representative from the National Implementation (or NIM) Partner. The format in which a matter is raised can be in writing, verbally or via text. At this level, the aim of this first step is to bring awareness to the issue before and to prevent any further escalation of the issue.
- *Immediate attention to the concern or grievance* - The matter raised will be acknowledged and addressed by the project manager or a designate to prevent any adverse effects on individuals engaged in the project, a specific region or on the pace of project interventions.
- *Resolution of the concern or grievance* - The project official who receives this information will inform the project manager and the project specific oversight mechanism will be enacted.⁸³ It is expected, however, that such concerns and grievances can be appropriately and effectively settled through the use of discussion, correspondence, meetings and management decisions. This approach will likely not require formal logging or tracking.
- *The conclusion of the grievance or concern* - At its conclusion, the decision to conclude the grievance will be documented to the complainant in written form.

Monitoring

Overall, despite that the project has a medium-risk assessment based on its SES, stakeholders will remain engaged in monitoring during project implementation. Updated and revised measures will be presented at project board

⁸³ During project implementation a specific approach outlining specific roles and responsibilities consistent with the policies and procedures of the NIM partner will be developed and presented to the stakeholders. They will also use this opportunity to provide additional information and feedback to strengthen the project specific response mechanism.

meetings and at the broader stakeholder group meetings. Outputs and indicators from the Project Results Framework will serve to assess stakeholder engagement and intervention effectiveness. These indicators will be disaggregated further by stakeholder type, gender, etc., as needed and appropriate.

The table below describes the major categories of stakeholders identified and the proposed involvement in the project

Stakeholders / Partners	Roles and responsibilities	Engagement method
<p>Ministry of Agriculture and Environmental Protection (MAEP)</p> <p>Sub-divisions closely involved in the project activities:</p> <ul style="list-style-type: none"> -Central apparatus -Environmental Service, its provincial departments, and reserves -Service of Land Resources and its province/velayat departments Land Resources Service, the Livestock Division and its Production Association “Türkmenörmeýdanlarysuwlandyryş”(Water supply for pastures) -Forestry Departments and Forest Seed Production -Natural Parks Protection Service. -Hydrometeorological service 	<p>National Implementing Partner. MAEP will be responsible for the implementation of all project activities at the national and local levels, as well as related trainings for decision makers, farmers and representatives of PAs. The Ministry will participate in the development of national, regional and district water and land use plans in order to achieve Land Degradation Neutrality; it will review and approve the PAs designation dossier; it will review and approve (institutionalize) the recommended Manuals and Guidelines in view of sustainability of results. Provides assistance in determining LDN indicators at the district (etrap), region (velayat) and national levels. Based on the results of the Project, it reviews and approved the updated National Action Plan on Combating Desertification and amendments to Pasture Law and Land Code, submitted by the project.</p> <p>MAEP through its the Land Resources Service, the Livestock Division and its Production Association Forestry Department</p> <p>“Türkmenörmeýdanlarysuwlandyryş”(Water supply for pastures) exercises state control over the rational and efficient use and protection of land resources; maintains the state land cadaster and monitors lands; carries out work on state land management, prepares materials for the provision of land plots for ownership, use and lease Their role is extremely important in review and approval of the regional LDN and integrated land use plans.</p> <p>MAEP, as Implementing Partner is responsible for the achievement of the</p>	<p>MAEP will chair the Project Steering Committee. It will host the project team at its premises and will ensure facilitation of multi-stakeholders consultation and participation of representatives of local communities including women and youth in the project activities, through the local offices and extension services. It will ensure the delivery of the pledged co-financing and will enlist the support of the Project Board for support to official approval of the project results. Engagement methods: through regular communication and reporting, in-person communication and emails; task groups; project workshops; meetings.</p>

	project development outcomes and GEF indicators.	
<p>State Committee for Water Resources (SCWR)</p> <p>Sub-divisions: Province (velayat) and district level sub-divisions (Production Departments) of “Dashoguzsuvkhozhalyk” and “Lebapsuvkhozhalyk”</p>	<p>The SCWR will review and approve the Integrated Water Management Plans and will ensure delivery of the pledged co-financing. It will ensure alignment and coordination with the national and local water resource management initiatives and strategies. The SCWR representatives will be actively involved in all the activities especially under Output 1.3 (including demonstration / investment projects for efficient irrigation). Will review and approve the Assessments and recommendations for mandatory ecological flows to water dependent Protected Areas and KBAs/IBAs for the maintenance of the ecological integrity of these lakes and wetlands in the Amudarya basin.</p>	<p>SCWR is a beneficiary of the project, a member of the Project Board and local etrap level Committee and participates in the implementation of the project through its local Production Departments and water managers supervising the largest irrigation systems in the project area. Engagement methods: through regular communication and reporting, in-person communication and emails; task groups; project workshops; meetings.</p>
IFAS organizations in Turkmenistan	<p>Ensure project cooperation with riparian states along the Amu Darya. Coordination and harmonization of approaches to solving environmental problems on the basis of ASBP-4 and REP4SD. Participates in the Project Board meetings. Supports awareness and education activities. Facilitates the dissemination of project good practices through available regional platforms.</p>	<p>Engagement methods: through regular communication and reporting, in-person communication and emails; task groups; project workshops; meetings.</p>
Turkmen Agricultural Institute, Dashoguz city	<p>TAI ensures the dissemination of the results of the project, the involvement of students in scientific and awareness work in the pilot areas. It has an advisory role to the project. Agricultural scientific Research Institute has been historically responsible for developing best practices for supporting state crops (e.g. seed selection for cotton and wheat) and managing best practice demonstration plots. The institute maintains some interest in other areas of agricultural</p>	<p>The TAI teaches students the basics of systems management, the principles of monitoring, registration and documentation of agrometeorological parameters and will showcase project results. Engagement method: regular communication, Sharing results, soliciting</p>

	production outside the state mandate, but these are limited in size and scope.	technical input, coordination of ongoing watershed interventions
National Institute of Deserts, Flora and Fauna	Conservation and sustainable use of desert ecosystems and their resources, restoration of forests and pastures. Development of guidelines for determining the estimated capacity of pastures. Recommendations for Phyto melioration of pastures and the introduction of new drought and salt-resistant industrial crops.	The Institute is a Project Advisor . Engagement method: regular communication, Sharing results, soliciting technical input, coordination of ongoing watershed interventions.
State Water Management Research, Production and Design Institute "Turkmensuvlymtaslama"	The Water design institute has a focus on effective water management (e.g. efficiency of large-scale water transport (supply and drainage) as well as farm level systems. Research on the quantity and quality of water resources. Irrigation rates, quality of irrigation water, including collector-drainage water.	The Institute is a Project Advisor. All the institutes have sub-national facilities across Turkmenistan which have the potential to be used for demonstration plots. Engagement method: regular communication, Sharing results, soliciting technical input, coordination of ongoing watershed interventions.
Scientific and Production Center of Livestock and Veterinary Medicine at the Turkmen Agricultural University named after S. Niyazov	Carrying out preventive work aimed at protecting against diseases common to humans and animals, researching issues of epizootiology, predicting infectious processes.	The Institute will assist in the development, implementation and evaluation of pilot activities for livestock farms located in desert pastures and provide technical information to assess the ecosystem values of natural pastures in pilot districts/etraps. Engagement method: regular communication, Sharing results, soliciting technical input.
Research Department of the "Water Design Institute "Turkmensuvlymtaslama" "	Focused on Water resources analytical research. It will have an advisory role and will support the project's consultations on the national priorities representations into the regional Aral Sea Basin programme	Engagement method: Regular communication, Sharing results, soliciting technical input,

	and delivery of presentations on the need of building trust and strengthening cooperation on water management in Aral Sea Basin within the framework of the annual Water Diplomacy Seminars.	coordination of ongoing watershed interventions.
Velayat/Province (administrative-territorial unit at the regional level)	The velayat/province administration will oversee and support the implementation of education and awareness project activities, and more importantly will participate actively in LDN target setting at regional level (including the identification of the institutional arrangements for LDN monitoring and reporting) and in the land use planning and facilitates the planning, implementation and monitoring of joint activities in targeted areas.	Velayat administration is a member of the Project Board. Engagement methods: through regular communication and reporting, in-person communication and emails; task groups; project workshops; meetings.
Etrap/district (administrative-territorial unit at the district level)	The etrap/district administration will directly participate in the development of the integrated land use plans for the targeted districts (Turkmenbashi, Ruhubelent, Deinau, Darganata) and the review and use of the guidelines, manuals for LDN centered integrated land use planning. It will participate in awareness and education activities, presenting good practices and results piloted at the district level.	Implementing Partner and Member of Etrap Coordinating Committees. Engagement methods: through regular communication and reporting, in-person communication and emails; task groups; project workshops; meetings.
Gengeshi (local government bodies) and Gengeshlik	Gengeshi will support agricultural and livestock farms in planning and implementing activities. Will facilitate local community uptake of SLM practices in the PAs surrounding geographies.	Member of District Coordination Committees. Methods of engagement : Through community outreach programmes, participating in training workshops; Public meetings; Focus group meetings
Daykhan associations and livestock farms	Independent entities, associations of farmers and individuals engaged in agriculture. Represent direct beneficiaries of the project and will facilitate and agree on the validation of targeted pilot/demonstration areas. They will be involved in capacity-building seminars and	Engagement through community outreach programmes, participating in training workshops; Public

	SLM demonstrations in the targeted districts.	meetings; Focus group meetings
Daihan Farms	Daihan farms are state farms-participating in the project as part of pilot farms that include several Daihan farms. These are beneficiaries of the project and will agree on the validation of targeted pilot/demonstration areas. They will be involved in capacity-building seminars and SLM demonstrations in the targeted districts.	Engagement through community outreach programmes, participating in training workshops; Public meetings; Focus group meetings
Dayhanbank Halkbank Rysgal Bank	Daihanbank, Halkbank and Rysgal Bank will be key financial institutions providing loans to pilot Daihan associations; the project will support the development of bank applications and will provide technical assistance to farmers/potential banks clients.	Engagement methods: Build interest in SLM financing, through In person communication, regular communication of socio-economic benefits of SLM demonstrated by the project. Participation into SLM/financing capacity building and awareness activities. Exploration of opportunities for joint training activities.
Society of Hunters and Fishermen of Turkmenistan and its velayat divisions	Carrying out an inventory of assigned hunting grounds / farms, monitoring the state of birds and wild animals, preparing insurance stocks of feed for feeding in the winter. The Society of Hunters and Fishermen will be engaged in the mapping and assessment of key habitats and indicator species, design of conservation measures, delineation of ecological corridors and buffer areas, assessments of eco-tourism potential.	Methods of engagement: Present project information, Gather opinions and views; engage stakeholders in project planning and implementation.
Union of Industrialists and Entrepreneurs (UIET)	Will be invited to participate in the design, implementation, and especially dissemination of demonstration activities, especially with regard to new technologies for efficient water irrigation, canal linings; Sustainable Land Management (SLM) practices to achieve LDN.	UIET will support the dissemination of project results through its available platforms and extension services. Methods of engagement: Build personal relations, meetings/ negotiations, in person communication,

	In addition, the project will work with the UIET within the framework of its collaboration with the Adaptation Fund Project “Scaling up resilience” , organizing joint trainings and delivery of LDN/SLM training modules.	regular communication. Participation into capacity building and awareness activities.
Partner NGOs Tebigy Kuwwat NGO “ Bosfor” NGO “Ynanch-Vepa” Nature Conservation Society	Tebigy Kuwwat- is co-financing awareness raising activities and participates in trainings on Biodiversity management, LDN, SLM and sustainable water management. NGO “ Bosfor”- will leverage its programming experience and experience in environmental management and will provide technical advisory services under the Grants component on micro-crediting, land and water legislation and gender issues. NGO “Ynanch-Vepa” will support the project’s work at local level, with local communities, facilitating their awareness and understanding on the importance of PAs and KBAs/IBAs and their participation into monitoring and awareness activities, as well as facilitating consensus on ecological corridors for wildlife.	The NGOs will be involved in advisory services, training, awareness activities, local community outreach. Methods of engagement: Regular communication focus group discussions, participation in project execution group, meetings, workshops
International NGOs (WWF, CAREC)	Sharing results and exploring synergies between on-going initiatives.	Participation in the project activities, through regular communication, in-person communication and emails; task groups; participation in project planned workshops.
Central Asian Desert Initiative (CADI)	Building on past CADI led initiatives and sharing knowledge. Exploring opportunities for synergistic activities among on-going initiatives and aligned with the UNDP/GEF project scope.	Participation in the project activities, through regular communication, in-person communication and emails; task groups; participation in project planned workshops.

Validation Workshop Proceedings
PPG UNDP-GEF project “Conservation and Sustainable Management of Land Resources and High Nature Value Ecosystems in the Aral Sea Basin for Multiple Benefits”

Date and venue:

February 19, 2021, 14:30-17:30 (LT)

Zoom Online Platform

N	Meeting Participants
1.	Mergen Yusupov , Deputy Head of the Department of Coordination of International Environmental Cooperation and Projects, Ministry of Agriculture and Environment Protection of Turkmenistan
2.	Orazbay Ballyyev , Department of Environmental Protection, Dashoguz velayat
3.	Aman Seytiyev , Department of Environmental Protection of Lebap velayat
4.	Bayramberdy Tirkeshov , Kaplankyr State Nature Reserve
5.	Akhmetdzhah Sadykov , Head of the Scientific Department of the Amu Darya State Natural Reserve
6.	Pirli Kepbanov , Director of the National Institute of Deserts, Flora and Fauna (NIDFF)
7.	Nury Atamuradov , head of the international department of NIDFF
8.	Ashe Soyunova , Professor of the Turkmen State Agricultural Institute, Dashoguz (TSAI)
9.	Myahrijemal Allamyradova , Professor at TSAI
10.	Hojamyrad Orazbayev , Professor of TSAI
11.	Babageldy Kurbanov , Professor of TSAI
12.	Saparmurad Charyyev , Chief Specialist of the International Department for Water Cooperation of the State Committee for Water Resources of Turkmenistan (diwc.scwm@online.tm +99312 44 83 11)
13.	Atajan Bayramov , Chief Specialist of the Department of Agro-Industrial Complex of the Ministry of Finance and Economy of Turkmenistan (+99365717740, email: atajanbayramov@gmail.com)
14.	Yagshymurat Akmammedov , Senior State Inspector of the Major State Service “Turkmenstandartlary”
15.	Sona Myradova , Head of Social Statistics Department of the State Committee on Statistics of Turkmenistan
16.	Araznury Atayev , Head of the Department of Humanities and Economic Sciences of the Academy of Sciences
17.	Ashir Saparmuradov , Head of the Department of Medical, Biological and Agricultural Sciences of the Academy of Sciences
18.	Nikolay Nikolayev , Center of Technologies at the Academy of Sciences
19.	Gurbanmuhamed Charyyev , Deputy Head of the Credit Department of the State Commercial Bank "Dayhanbank"
20.	Joint-Stock Commercial Bank "Halkbank" contacts (99312) 44-48-37 (99312) 22-73-23
21.	Joint Stock Commercial Bank "Rysgal" contacts (+993 12) 96-46-10, (+993 12) 96-46-20, (+993 12) 96-46-30
22.	Mamirjan Babyshov , Forestry of Lebap velayat
23.	Ainur Khodjamadova , Forestry of Dashoguz velayat
24.	Nizamjan Baltayev , Department of Agriculture of the Lebap Hyakimlik
25.	Shageldy Kebeleyev , Chief Engineer of the Water Department of the Darganata Etrap
26.	Sabina Narkulyyeva , Head of the Hyakimlik of the Deinau etrap
27.	Akmyrat Mamedov , Hyakimlik of Dashoguz velayat

28.	Shageldy Saparov , Hyakimlik etrap S. Turkmenbashi (Dashoguz velayat)
29.	Seyit Rejepov , Hyakimlik of Ruhubelent etrap (Dashoguz velayat)
30.	Maya Ovezova , Consultant to the Head of the Agro-industrial Complex of the Union of Industrialists and Entrepreneurs of Turkmenistan (UIET) (Tel: 99364-015089, E-mail: owez.nur@mail.ru)
31.	Muhammet Durikov , Director of the ICSD Scientific-Information Center (IFAS), UNCCD Focal Point
32.	Batyr Rejepov , Deputy Director of the Dashoguz branch of the Executive Committee of the International Fund for Saving the Aral Sea (IFAS)
33.	Maya Ashirova , Country Coordinator (Turkmenistan) of the GIZ Regional Program “Sustainable and Climate Sensitive Land Use for Economic Development of CA”, E-mail: maya.ashirova@giz.de
34.	Maxim Vergeichik , Technical Manager, UNDP Istanbul Regional Office
35.	Farhat Orunov , UNDP Program Specialist for Energy and Environmental Protection
36.	Amangul Ovezberdyeva , National Coordinator of the UNDP Project “Supporting climate resilient livelihoods in agricultural communities in drought-prone areas of Turkmenistan”
37.	Gozel Atamuradova , UNDP Project Expert “Supporting climate resilient livelihoods in agricultural communities in drought-prone areas of Turkmenistan” as well as support and assistance, coordination between the national partner and UNDP and the PPG Aral Team
38.	Rahmanberdy Hanekov , National Project Manager of the FAO-GEF Regional Project CACILM-2
39.	Shirin Karryyeva , CADI Project Manager, SBSTTA Focal Point from Turkmenistan
40.	Madina Mustafina , Specialist of the “Yenme” Public Organization, overcoming.tm@gmail.com
41.	Ainabat Atayeva , Head of the Public Organization “Ecodurmush”
42.	Teymur Aliyev , Deputy Director of the Public Association “Tebigy Kuvvat”
43.	Monica Moldovan , International Project Development Specialist, UNDP-GEF PPG Team Leader
44.	Batyr Mamedov , Lead National Expert for PPG coordination and stakeholder engagement (UNDP GEF PPG)
45.	Gurbanmyrat Ovezmuradov , National Water Management Specialist (UNDP-GEF PPG)
46.	Murad Nepesov , Land Degradation Neutrality Specialist & National Land-use Planning Expert (UNDP-GEF PPG)
47.	Akmurad Gardashev , Sustainable Livelihoods and Community Engagement Expert in Dashoguz (UNDP-GEF PPG)
48.	Murad Huseyinov , Sustainable Livelihoods and Community Engagement Expert in Lebap velayat (UNDP-GEF PPG)
49.	Nataliya Chemayeva , National Expert on Communication and Awareness (UNDP-GEF PPG)
50.	Gulnara Ibrayeva , Gender Specialist (UNDP-GEF PPG)
51.	Elena Dolgova , Journalist, representative of the "Golden Age" electronic newspaper (formerly “Neutral Turkmenistan”)
52.	Correspondents of the “Vatan” TV channel of the Dashoguz velayat
53.	Lyale Nazarova , Translator
54.	Bahar Shikhkuliyeva , Translator

Objective of the meeting: To validate if the project design reflect the national priorities, the views of stakeholders and whether it is a useful platform to build on.

The meeting was opened by **Mr. Farhat Orunov**, UNDP Program Specialist for Energy and Environmental Protection, who greeted and thanked all the partners present at the meeting deriving from national and international organizations. Mr.Orunov also stressed on the invaluable assistance of the UNDP's national partners including the Ministry of Foreign Affairs of Turkmenistan (MFA) and the Ministry of Agriculture

and Environmental Protection (MAEP). He noted that the Validation Seminar is a key event for the future project..

Mr. Orunov highlighted the good timing of the project due to the fact that there was a recent kick-off of the *National Program for the Aral Sea (NAP)* and the government newly created Intersectoral Commission. The proposed project, is fully aligned with the goals and objectives of the proposed National Program for the Aral Sea. Obtaining recommendations from all the parties is the priority in this case, as it would help outline the synergies between the NAP and the future project. Mr. Orunov noted that the project preparation process began in March 2020 under the supervision of UNDP and in close cooperation with MAEP and national experts, and under the leadership of an International Project Development Consultant.

At the end of his speech, Mr. Orunov introduced everyone to the Agenda and mentioned 2 (two) presentations to be presented, explaining some organizational issues.

Then the floor was passed to **Mr. Mergen Yusupov**, who greeted everyone on behalf of the Ministry of Agriculture and Environmental Protection of Turkmenistan. He noted that the issues of environment protection and mitigation of the consequences of the Aral Sea tragedy are in the focus of state policies. Mr. Yusupov thanked UNDP for the fruitful cooperation and noted the successful implementation of the two UNDP on-going projects in Turkmenistan. He also highlighted the new UNDP Aral Sea Project, which is to be funded by the Global Environment Facility (GEF) and is aligned to all national and regional initiatives of Turkmenistan. Mr. Yusupov noted the high quality of the project's proposal prep work that was carried out by a group of national experts. This quality level was achieved by the coordinated work of national experts who were supported by the MAEP, held meetings with a large number of national partners and stakeholder groups. At the end of his speech, Mr. Yusupov expressed his assurance that the project will complement to all aspects of national trends in development.

Then the welcoming speech were conveyed to **Mr. Maxim Vergeichik**, Regional Technical Advisor on Biodiversity and Ecology in Europe and Central Asia from the Istanbul Regional Hub. Mr. Vergeichik greeted and thanked everyone for their participation in the validation workshop He highlighted the high quality of the project proposal, which was prepared thoroughly and agreed with all interested parties. The UNDP Istanbul Regional Office provided extensive support to the team and the project proposal was prepared within the timeframe annotated by the GEF for experts. There were no force-majeure or difficult situations arising during the preparation of the document. Finalizing his speech, Mr. Vergeichik stressed that in case participants support the proposal the colleagues from UNDP will complete the preparation of the project application and submit all the necessary documents to the GEF. It sounded realistic that by September 2021 the project could receive final GEF approval.

Mr. Orunov gave the floor to **Ms. Monica Moldovan**, International Project Development Specialist and PPG Team Leader who presented the project, its strategy and approaches with all the thematic components. Ms. Moldovan thanked the national team of experts for their assistance in preparing the project proposal. She described the process of project development and presented the main project facts . The project will span over 5 years with the total investment from GEF \$ 4,583,196 million, implemented by UNDP in partnership with the Ministry of Agriculture and Environment and potential Responsible Parties that will support project execution.

GEF investments will contribute to the promotion of sustainable agricultural practices while at the same time, conserving critical ecosystem services through a zero net loss approach to land-based natural capital, coupled with supporting livelihoods of the local resource users.

Ms. Moldovan emphasized that the project is financed from two GEF focal areas (Land Degradation and Biodiversity) and has an integrated approach focusing on (i) improved agro-ecosystem services for resilient livelihoods (ii) reduced pressures on natural resources and (iii) reduced pressure on biodiversity especially at KBAs/IBAs and improved management effectiveness of the Protected Areas. The project will promote Land Degradation Neutrality which will be implemented through integrated landscape planning

and sustainable agricultural practices that do not deplete soil productivity in the production zones. At the same time, a better integration of high value ecosystems into wider landscapes will be attained. The support of all key partners will be very important during the project implementation for the achievement of the project's objective. In addition, the coordination and synergy of the new project will be carried out with the UNDP/GEF project and the Adaptation Fund activities, the FAO CACILM-2 Program and the IFAS programs and other donor led projects.

Ms. Moldovan further emphasized that the drivers/causes of land degradation and biodiversity decline will be addressed through removing barriers. By so doing, the project will be aligned with the main national priorities in Protected Areas Management, Water Sector and Agriculture Sector and with Turkmenistan's efforts to combat desertification.

The project is also aligned with the country's commitment to reach Land Degradation Neutrality and achieve SDG Goal 15.3 – and in this regard, the project will support the National LDN Voluntary targets setting. The project further aligns with the Aral Sea Basin cooperation platform, through its work with the International Fund for Saving the Aral Sea (IFAS) and knowledge sharing at regional level, strengthening cooperation.

And, through its focus on strengthening the management of protected areas and integrating biodiversity into broader landscape, the project is aligned with the post 2020 Global Biodiversity Framework – which is being developed at the moment at global level.

Ms. Moldovan presentation further focused on the project targeted sites and their importance in demonstrating integrated landscape planning.

The presentation further included a detailed description of the Project Results Framework (outcomes, output and activities) and main indicators, Partnerships and Synergies proposed as well as Knowledge management approaches and lessons learned on which the project design has been built.

Risks and Assumptions have been also discussed and the necessity of government ownership and official approval of project results has been emphasized as being essential for sustainable, replicable project results.

At the end of her presentation Ms. Moldovan thanked the UNDP-GEF Regional Technical Advisor (Maxim Vergeichik), the UNDP Country Office colleagues and the project team of national experts and invited the participants of the seminar to provide their views and comments on the aspects presented.

Further, to elaborate more on some of the aspects related to the site selections and to highlight the importance of local and national partnerships needed for attaining the results of the project results, the floor was given to **Mr. Batyr Mamedov**, Leading National Expert on Aral PPG Coordination and Stakeholder Engagement

Mr. Mamedov further elaborated on the selected pilot areas encompassing Turkmen territories directly affected by the Aral Sea disaster. The area completely includes the Dashoguz velayat and etraps of Deinau and Darganata in the Lebap velayat. Taking into account the problems of the Aral Sea, this means that dust and salt storms are constantly present in the selected territories, harming the economic, environmental and social development of the regions, as well as directly affecting local farmer communities. He noted that the process of selecting the pilot sites took a substantial time, since a number of territories were preliminary selected in each velayat. As a result, after numerous consultations and meetings including advice received from the local administration, for example, the Ruhybelent and S. Turkmenbashi etraps were chosen for the Dashoguz velayat. Mr. Mamedov noted that all the meetings held were agreed with the government and once again thanked the Ministry of Agriculture and Environmental Protection for the support provided on the ground. The national project experts were able to meet with all the corresponding specialists in these etraps and conduct the necessary consultations.

Mr. Mamedov noted that large territories in both velayats with a total area of 1.5 million hectares were considered for pilot sites. The area of irrigated land, pastures and other types of land were divided by

etrap in order to ensure that the total amount of declared land was consistent with the project objectives. In each etrap, the appropriate Farmer Associations (F/A) were selected. In the Lebap velayat, these were the *Gabakly F/A* on the territory of the Gabakly gengeshlik of the Deinau etrap, the *Tyaze Yurt F/A* on the territory of the Isbaz gengeshlik of the Deinau etrap, the *Lebap F/A* on the territory of the Lebap gengeshlik of the Darganata etrap. In the Dashoguz velayat, these were the *Ak Altyn F/A* on the territory of the Sarygamysh gengeshlik of the S.Turkmenbashi etrap and the *Ashyk Aydyn F/A* on the territory of the Ashyk Aydyn gengeshlik of the Ruhybelent etrap.

When selecting the project areas, the national experts were guided by multiple objectives including the number of production indicators available for the landscapes; the interest of the local administration and farmers in the project activities; and their willingness to invest own funds and efforts in improving land resources (according to the best project practices). Moreover, protocols of meetings were signed with local hyakimliks in the Dashoguz velayat and the results of consultations officially determined. When explaining the situation, Mr. Mamedov also mentioned that during the proposal preparation some F/As were (or will be) disbanded due to the long-term lease transfer of land into ownership. This meant that F/A's borders are in the process of constant revision. Therefore, the PPG team proposed at the project's start to once again clarify (validate) the areas of the selected F/As (i.e. the new F/A "Ashir Kakabaev" and the expanded F/A "Ashyk Aydin").

In terms of land quality, the soil in Lebap velayat is in a somewhat better condition and less saline than in Dashoguz, owing to a better drainage. On the contrary, Dashoguz landscape represents a delta territory that collects all saline waters on its territory. The close proximity of the Aral Sea impacts the environmental conditions

For the Second Component of the project, Mr. Mamedov gave a detailed description of the selected protected areas (PAs) where the Kaplankyr State Nature Reserve with two state sanctuaries (Sarykamysh and Shasenem) were selected for the Dashoguz velayat. There are water bodies on the territory of the reserve, that will help in the implementation of the project tasks in relation to biodiversity conservation objectives. In the Lebap velayat, the project will work with the Amu Darya State Nature Reserve and its three sites: Gabakly (Deinau etrap), Darganata (Darganata etrap) and Nargiz site (Farap etrap). In addition to nature reserves, national experts also reviewed the Key Biodiversity Areas (KBAs) corresponding to the Important Bird Areas of Turkmenistan (IBAs). Of the 15 proposed KBAs/IBAs, there were several selected based on the administrative and ecological state of these areas, as well as the proximity to the pilot sites. However, the project will have different activities planned and different degrees of interventions covering all the KBAs/IBAs within the project sites.

Mr. Mamedov concluded his presentation with the proposal on the joint actions with all stakeholder groups within the framework of the Third Component. He noted that during the preparatory process, national experts met with various parties to outline synergies with other projects focusing extensively on the public outreach. For example, the new principles of the Land Degradation Neutrality (LDN) supported by the UNCCD, were mentioned as the potential entry-point for such cooperation. On behalf of the project team he expressed the hope that future project will become a part of the National Aral Sea Program and hence, will bring new perspectives and opportunities. He also noted the readiness of the Turkmen side to jointly finance some of the project goals, in connection with which Mr. Mamedov once again thanked the Ministry of Agriculture and Environmental Protection, as well as international programs and projects (including GIZ, CADI, FAO etc.), national partners from the UIET, banks, PAs and other organizations. Further, Mr. Mamedov opened the Q&A session for the participants of the meeting.

Mr. Yusupov (MAEP) asked a question regarding the Center for Biodiversity in Dashoguz velayat, that was listed among the recommended project partners. Mr. Yusupov was interested in center's subordination and location.

Mr. Mamedov noted that the Biodiversity Center in Dashoguz falls under the responsibility of the Department of Environmental Protection of the Dashoguz velayat and is a nursery and a wildlife rehabilitation center.

Mrs. Karryeva (CADI) informed participants that the preliminary list of “Temperate Deserts of Central Asia” was prepared within the framework of the Central Asian Deserts Initiative (CADI) and submitted to the UNESCO World Heritage Center in December 2020. Additionally, there are three Management Plans being developed, including the one for the Kaplankyr Reserve, along with full Nomination Dossier being prepared for the nomination of desert reserves to the UNESCO World Heritage List. Also, within the framework of the project initiated by the Royal Society for the Protection of Birds (RSBP), an information dossier on the Important Bird Area (IBA) of Tallymerjden (Dovletli etrap of the Lebap velayat) along with the Management Plan for the new Tallymerjen Wildlife Refuge were prepared. Thus, in 2009, a guide was published on the IBAs of Turkmenistan, which CADI can offer for the Aral project as an informational guide. It was proposed that the Aral project would assist the Ministry of Agriculture and Environmental Protection in the creation of a new Tallymerjden Sanctuary in the Dovletli etrap of the Lebap velayat

The representative of TSAI shared an expectation that TSAI would engage in the future project (since university already has an experience in project implementation with FAO, UNDP and others). In this case, the university professors and students can act as thematic consultants for the project.

Mr. Mamedov noted that within the framework of the future project, it is expected that educational institutions (such as TSAI) will be directly involved in project activities. In addition, the joint planning of the educational process is expected, as well as active participation of the teaching staff in project seminars for a wider dissemination of the best project practices.

Representatives of the Academy of Sciences inquired whether the synergy of the future Aral project and the National Aral Sea Program was envisaged and how it would be expressed.

Mr. Orunov (UNDP) informed that UNDP made a project presentation accompanied by a list of planned actions at the recent meeting with the Ministry of Foreign Affairs of Turkmenistan. Since the project has not yet received funding from the GEF, the UNDP was not able to authorize the events through the MFA for the coming year, but will kick-start the procedures as soon as the funding is secured.

Ms. Moldovan assured that the project design and Knowledge Management approach has considered CADI experience especially the knowledge generated under the project “ Conservation and Sustainable Use of the Deserts of Turkmenistan”. The Knowledge Management Plan will make this aspect clearer. GEF project did not emphasize future synergies with CADI project explicitly, as the CADI led initiative was supposed to close in 2020. GEF project is considering synergies with the Ministry of Agriculture and Environment’s initiatives. For example, the GEF project will promote consultations with local communities for the promotion of sustainable agricultural practices in buffer areas in the proximity of KBAs/IBAs (including Tallymerjen IBA) and from this perspective, the project’s activities under Output 2.3 are complementing the government’s intention of elevating Tallymerjen to Wildlife Refuge status. Furthermore, the project will support legal amendments intended to give KBAs/IBAs and Sanctuaries (IUCN IV) an increased status and legal protection.

Mrs. Karryeva (CADI) confirmed that the CADI project was about to finalize by the end of 2021, but due to the global pandemic situation with Covid-19 there was an inquire submitted requesting another year of extension (a non-cost extension). Mrs. Karryeva insisted that CADI (Central Asian Desert Initiative) should be included as one of the main stakeholders in the future project, the temporary Secretariat of which has already been opened in Tashkent (Uzbekistan) in January 2021 under the State Forestry Committee. The main reason mentioned was that the goals and objectives of the future Aral project and the CADI Initiative are very similar in the Component 2 on Biodiversity.

Ms. Moldovan assured that the project includes opportunities for synergies with the Ministry of Agriculture and Environment led initiatives including the initiatives led by CADI. Furthermore, it was explained that nearly all the recommendations of Mrs. Karryeva have been taken into consideration

during the project design, since Mrs. Karryeva was part of the national expert team. The recommended continuation of the work started by CADI and an explicit focus on the implementation of the requirements of the World Natural Heritage Convention is however not under the proposed project scope but a number of opportunities for synergies and knowledge sharing is included in the project document, that will support Protected Areas some of which are designated for nomination under the “Turanian deserts of the temperate zone” List of the UNESCO World Heritage. There is however a limitation to what the proposed GEF project will invest in, as the project strategy has followed the initial GEF PIF already discussed and approved by the government.

Mrs. Ashirova (GIZ) thanked everyone and congratulated the team of experts on the proposal completion of such a multifaceted project and expressed hope for its soon validation. Mrs. Ashirova noted that majority of issues indicated in the project proposal have been targeted within the framework of multiple GIZ projects and will resemble in the new project’s phase (2021-2024). Within the present GIZ program phase, assistance on the setting of the National LDN Target has been provided to the Turkmen authorities with GIZ planning to support this work further. She also noted that the biodiversity component could become another synergy point with the GIZ in the upcoming new phase. Adding on the potential project risks, Mrs. Ashirova shared her experience regarding the development and adoption of secondary legislation (by-laws) on the Pasture Law. GIZ was unable to promote prepared by-laws for further adoption at the state level. With this, she expressed her readiness to share with the prepared legislation for further cooperation with the Aral project. Mrs. Ashirova welcomed to discuss further details with the project team.

Ms. Moldovan emphasized the this proposed GEF project is building on GIZ wealth of experience in the region and that both projects could discuss synergies in more details and asked Mrs. Ashirova's contact for further communication.

Mr. Orunov once again emphasized that the project document expects (within the framework of the Component 2) to assist with the creation of two sanctuaries under the leadership of the Ministry of Agriculture and Environmental Protection.

Mr. Tirkeshov (Kaplankyr NR) requested to receive an additional clarification regarding the total area of new sanctuaries declared by the Aral project. He mentioned that during the preliminary negotiations conducted with representatives of the nature reserves the numbers of future reserves were expected to be larger than the indicated 60,000 hectares.

Mrs. Karryeva (CADI) confirmed that such a conversation was conducted both with the representatives of nature reserves and at the level of the Ministry of Agriculture and Environmental Protection. The final calculation of 60,000 hectares consisted of 20,000 hectares of the new Zengibaba Sanctuary of the Dashoguz velayat and 40,000 hectares of the new Pitnyak Sanctuary of the Lebap velayat. In addition to the creation of new sanctuaries, the area of ecological corridors was expected to increase. For example, ecological corridors and buffer protection zones with an area of 45,000 hectares are expected to be created for the Kaplankyr Reserve. However, at this point the Ministry confirmed only 60,000 hectares for the project goals and indicators. This is due to the ongoing land privatization process in Turkmenistan, which is why it was risky to secure additional land for the proposed sanctuaries. Potential extension of 60,000 hectares of the sanctuaries’ territory in due course of project implementation will be regarded as an additional bonus for the project.

The representative of “Dayhanbank” asked to clarify the issue on microschemes, voiced during the presentation.

Ms. Moldovan noted that related to financing Sustainable Land Management (SLM) measures in the project, the activities that the proposed project include incentivizing farmers through a micro-grant scheme and capacity building and technical assistance provision to farmers on improving skills for developing farms business plans and bank loan applications (i.e. for obtaining state soft loans and learning how to fill out relevant documents).

The answer of Ms. Moldovan was complemented by **Mr. Mamedov**, who noted that the issue with micro-grant scheme and other potential feasible financial instruments was already discussed with the representatives of the “Dayhanbank” during the consultations. Turkmenistan has introduced a financial support system in the form of concessional loans targeting introduction of innovative solutions to the agricultural sector (for example, water-saving technologies etc.). The project’s grant component is expected to support these efforts, provided that such loans are taken for the implementation of Sustainable Land Management measures. The grants component has clear criteria that will be applied.

The representative of “Dayhanbank” requested to clarify the details regarding the synergy between project goals and national goals, helping the audience to understand whether future project was expected to assist with the development of new lands, the restoration of abandoned lands, etc.

Mr. Mamedov noted that within the framework of the future project, it is expected that the project goals will complement the national goals in restoring abandoned lands and improving the state of pastures and irrigated areas.

Mrs. Ovezova (UIET) asked the project team whether the partnership with the Union of Industrialists and Entrepreneurs of Turkmenistan was considered for the future project.

Mr. Orunov readily noted that the Union was listed as one of the main partners of the future project, especially for the pilot regions, where the focus is on sustainable land management.

Mrs. Ovezova (UIET) additionally inquired regarding the soft loan system, which is expected to operate via national banks of Turkmenistan. She was keen to know on the proposed solutions that were envisaged for collateral coverage.

Mr. Mamedov noted that the project team considered this issue, including the possibility of the future project to act as the loan third-party guarantor. However, unfortunately, national legislation is not fully in favor of such an option. Based on several consultations with financial institutions, the team of experts considered that for now, grants are the most feasible option to provide incentives for promotion of sustainable agricultural practices. The expert economists to be hired during the project implementation to validate and adapt if necessary, the proposed project approaches for incentivizing farmers in adopting Sustainable Land Management measures.

At the end of the Q&A session, the concluding remarks were provided to the representative of the Ministry of Agriculture and Environmental Protection, **Mr. Mergen Yusupov**. He thanked the entire project team and meeting participants for their active participation during the Validation Seminar and once again emphasized on the importance of stakeholder participation as the key factor to the successful implementation of the project objectives. He noted that only by cooperating all parties could achieve success.

Closing remarks were also received from **Ms. Moldovan**, who thanked everyone for their comments and showed that the next steps consist in project document finalization with respect to the comments received at today’s meeting and clarification of the project’s management arrangements, mentioning that after successful completion of the internal UNDP-GEF team reviews the project document and mandatory annexes will be submitted to the GEF Secretariat; and reiterated that as it was mentioned by Mr. Maxim Vergeichik it is realistic to expect a positive resolution from the GEF by autumn 2021. Following this expected schedule, the project will be able to start its work in January 2022.

Mr. Orunov thanked everyone and once again noted that the project is very important and relevant for Turkmenistan. He expressed hope that after receiving the GEF approval and launching of the project, sound results will be achieved for the zones impacted by the Aral Sea ecological disaster. Mr. Orunov noted that this UNDP project is an excellent opportunity to complement the National Aral Sea Program and solve numerous issues for future generations. Concluding, he said that the conclusion of this meeting might consider the Validation Seminar to be successfully completed.

Process Framework – Template

A Process Framework is prepared when UNDP-supported projects may cause restrictions in access to natural resources in legally designated parks and protected areas. The purpose of the process framework is to establish a process by which members of potentially affected communities participate in the design of project components, determination of measures necessary to address the requirements of SES Standard 5, and implementation and monitoring of relevant project activities.

The level of detail of the Process Framework may vary depending on project activities, characteristics of restrictions and their impacts, and the number of persons affected. The Process Framework supplements the project's environmental and social assessment with a participatory framework focused on the potential impacts of access restrictions.

Specifically, the Process Framework should include the following elements:

1. *Project background:* Briefly describe the project and components or activities that may involve new or more stringent restrictions on natural resource use.
2. *Participatory implementation:* Describe the process by which potentially displaced persons will participate in determining potential access restrictions, mutually acceptable levels of resource use, management arrangements, and measures to address impacts on affected communities. The roles and responsibilities of stakeholders and the methods of participation and decision-making should be described; decision-making may include the establishment of representative local structures, the use of open meetings, and involvement of existing local institutions, being sure that marginalized/vulnerable groups (such as women and youth) are able to participate in decision-making processes. Methods of consultation and participation should be in a form appropriate for affected communities.
3. *Potential impacts:* Describe the process by which potentially affected communities will be involved in identifying any adverse environmental and social impacts associated with project activities, including:
 - the types and extent of community use (and use by men and women) of natural resources in relevant areas, and the existing rules and institutions for the use and management of natural resources, including customary use rights.
 - the threats to and impacts on the relevant areas from various activities in the area of local communities and other stakeholders (e.g. external poachers and traders, development activities);
 - the potential livelihood impacts on men and women of new or more strictly enforced restrictions on use of resources in the area.
4. *Eligibility criteria:* The eligibility criteria would determine which groups and persons are eligible for assistance and mitigation measures while discouraging ineligible persons, such as opportunistic settlers, from claiming benefits. That is, the criteria may exclude certain affected persons or groups from assistance because their activities are clearly illegal, unsustainable and destructive (e.g., wildlife poachers, dynamite fishers). The criteria may also distinguish between persons utilizing resources unsustainably and opportunistically, and others using resources for their livelihoods, and between groups with customary rights and non-residents or immigrants. The criteria need to account for variations in seasonal use of lands by local communities and pastoralists. The eligibility criteria should also establish a cut-off date.
5. *Measures to assist affected persons to improve their livelihoods:* Describe methods and procedures by which communities will identify and choose potential mitigating or compensating measures to be provided to those adversely affected, and procedures by which adversely affected community members will decide among the options available to them. The measures will seek to improve livelihoods in real terms to pre-displacement levels, while maintaining the sustainability of the park or protected area. However, in some circumstances affected communities may agree to restrictions without identifying one-for-one mitigation measures as they may see the long-term benefits of improved natural resource management and conservation. Possible measures may include:

- special measures for recognition and support of customary rights to land and natural resources
 - transparent, equitable, and fair ways of more sustainable sharing of the resources
 - access to alternative resources or functional substitutes
 - alternative livelihood and income-generating activities
 - health and education benefits
 - obtaining employment, for example as park rangers or eco-tourist guides, as well as in wider project functions, such as stakeholder engagement, technical advising or monitoring and evaluation
 - technical assistance to improve land and natural resource use, and marketing of sustainable products and commodities.
6. *Conflict resolution and grievance mechanism:* Describe the process for resolving disputes relating to resource use restrictions that may arise between or among affected communities, and grievances that may arise from members of communities who are dissatisfied with the eligibility criteria, community planning measures, or actual implementation. Procedures should take into account local dispute resolution practices and institutions.
 7. *Implementation and monitoring arrangements:* Describe the implementation arrangements, including activity timetable and the roles and responsibilities of different stakeholders, such as the implementing partner, affected communities, and relevant government agencies. Provide clear delineation for administrative and financial responsibilities under the project. Describe arrangements for participatory monitoring of project activities and the effectiveness of measures taken that seek to improve incomes, livelihoods and living standards.
 8. *Costs and budget:* An appropriately costed plan, with itemized budget sufficient to satisfactorily undertake the activities described, including financing for livelihood enhancement measures, participatory processes, implementation and monitoring arrangements. List sources and flow of funds.

Annex 17: Stakeholders consulted during project development

Date	Name / Position	Comments / Purpose of the meeting
05/16/2020 06.06.2020	Mukhamet Durikov, Director of the NIDFF Institute and National Coordinator of the UNCCD	Presentation about the goals and objectives of the project. The National Coordinator of the CCD gave recommendations on the components of the project.
05/22/2020	<ol style="list-style-type: none"> 1. Mukhamet Durikov, Director of the NIDFF Institute and National Coordinator of the UNCCD 2. Mergen Yusupov, Representative of the Ministry of Agriculture and Environmental Protection, National Project Coordinator PPG 3. Amangul Ovezberdiyeva, National Coordinator of the GEF / UNDP Project 	This meeting was the first official meeting of the PPG team on the Aral project, which brought together all experts locally and remotely, in connection with which the meeting began with an acquaintance within the expert group. At this stage, all experts have already familiarized themselves with their terms of reference and collected a sufficient number of questions for the international project consultant. Discussion of the concept of the Project (PIF).
05/27/2020	TAI professors and students, Dashoguzsuvkhodjalyk specialists,	Familiarization with the goals and objectives of the Project, with the results of the preliminary stage of work
05 .06.2020	Narkuly Hayitov, khyakim of Deinau etrap	Discussion of the tasks of the Project and the willingness of the etrap to cooperate with the project
06.06.2020 02.07.2020	Setdarov Karyagdy, Director of the Amu Darya Nature Reserve Sadykov Ahmet, Head of the Research Department Agryzkov Evgeniy, Leading Specialist	At a meeting with the director and employees of the reserve, the goals of the future project in terms of preserving biodiversity and ensuring the sustainable state of specially protected natural areas were announced
06.06.2020	Jumamurat Saparmuradov, Head of the Department of Environmental Protection and Hydrometeorology, Ministry of Agriculture and Environmental Protection	Harmonization with the representative MAEP, national coordinator the UN Convention on Biodiversity priority of districts, based on the criteria of the project.
06/08/2020	Balta Khudayberdyev, chairman of the village Tyaze Yurt, Deinau etrap	Information about the land resources of the daikhan association and readiness to participate in the project
06/09/2020	Tadjibay-aga, former chairman of the Lebap d / o Darganatinsky etrap	Information about the land resources of the daikhan association and readiness to participate in the project
06/09/2020 07.07.2020 07/09/2020	Yazgeldy Meredov, chief landscape specialist of the Dashoguz velayat	Familiarization with the preparation of the project proposal and discussed the selection of pilot sites.

Date	Name / Position	Comments / Purpose of the meeting
06/11/2020	Rozymurad Dzhumanazarov, Head of the Serdar livestock farm, Chardzhou etrap	Information about pasture resources and wells of the "Serdar" livestock farm.
06/12/2020	Meret Amanov, Head of the Land Management Department of the Dashoguz khyakimlik	Acquaintance with the information on the preparation of the project proposal.
06/13/2020	Chary Yoldashev, Head of the Department of the khyakimlik of the Lebap velayat	Discussion of the goals and objectives of the future project.
06/16/2020 07/20/2020	Kuvvatbai Kakyshov, Head of the Agriculture Department	Discussion of the selection of pilot etraps named after S. Turkmenbashi and Ruhybelent etrap.
06/16/2020	<ol style="list-style-type: none"> 1. Jumabaev Yagmyr, Director of the Gaplanyr Reserve 2. Amanov Arazmyrat, Head of The Scientific Department of the State Historical Service 3. Khandurdyev Yagshy, Senior Researcher 4. Tirkeshov Bayramgeldi, Senior Researcher 5. Ovezov Tirkesh, Senior Researcher 6. Amanov Merdan, Junior Researcher 7. Golliyeva Jamal, Junior Researcher 8. Eminov Sapargeldi, Head of the Gaplanyr section 9. Babaev Ovezgledi, Head of the Gulantakyr section 10. Hekimov Garly, Head of the Sarikamysh Reserve 11. Allamberenov Mukhammet, Head of the Shasenem Reserve 	<p>Familiarization with the upcoming activities planned within the framework of the project in the Dashoguz region, the goals of cooperation of the project with the Gaplanyr State Nature Reserve, further steps to improve environmental activities in which the project could participate. The reserve's specialists shared the following materials with the project:</p> <ul style="list-style-type: none"> • Information about the organizational, methodological and informational departments of the reserve. • Information about the influence of external factors on the ecosystem of the reserve - natural, anthropogenic, ongoing activities, against anthropogenic influences • Natural conditions of the reserve - geology, soil, weather conditions, water resources information; • Flora and fauna information.
06/17/2020	<ol style="list-style-type: none"> 1. Farhat Orunov, Programme Analyst of UNDP CO Turkmenistan 2. Geldi Muradov, Project Manager on Improving energy efficiency in the water sector of UNDP CO Turkmenistan 3. Djemal Durdykova and (4) Victoria Akopova, Specialists on waste management and M&E Sustainable Development of the Cities Project, UNDP CO, Turkmenistan 	Presentation of the current project proposal of the Aral UNDP / GEF project and the results of the work carried out by the PPG team to representatives of local projects (GIZ, FAO, CADI, CAREC, etc.) in order to identify synergy elements for further work, as well as to answer questions of interest on co-financing of events.

Date	Name / Position	Comments / Purpose of the meeting
	5. Rahman Hannekov, Project Manager of FAO/GEF Regional Project CACILM-2 6. Shirin Karryeva, Project Manager of CADI (Central Asian Desert Initiative) 7. Irana Bagirova, Coordinator of CAREC projects in Turkmenistan 8. Maya Ashirova, Coordinator of the GIZ Regional Program for Sustainable and Climate Sensitive Land Use for Economic Development in Central Asia 9. Venera Shaihullina, Coordinator of Green Central Asia Program (GIZ)	
06/18/2020	Nizam Baltaev, Responsible Project Implementation Specialist	Acquaintance with the information on the preparation of the project proposal
06/22/2020	Specialists of the khyakimlik of the Ruhybelent etrap	Request for the necessary information about the etrap to draw up a description of the landscape profile
06/23/2020	Specialists of the khyakimlik of the etrap named after S. Turkmenbashi	Preliminary information about S. Turkmenbashi etrap has been received.
June 24, 2020	Atamurad Atajanov, Head of the Water Management Department of the Lebap Velayat	Information about the irrigation and collector-drainage network of the Deinau and Darganatinsky etrap was obtained
06/25/2020	Byashim Jovkherov, Fisheries Inspection of Lebap Velayat	Information about lakes and reservoirs within the Deinau and Darganatinsky etrap was obtained
07/01/2020	1. Shohrat Khudaykuliev, deputy khyakim of Lebap velayat 2. Chary Yoldashev, Head of the Department of Agricultural reform and Introduction of New Technologies of the khyakimlik 3. Khydyr Kulov, Head of the Reclamation Department of the Lebap khyakimlik 4. Mukhamed Kurbanov, Head of the Land Resources Service of the Lebap velayat 5. Atamurat Atajanov, Head of Obasuvkhodjalyk, Lebap velayat 6. Begench Charyev - Deputy Head of the Land Resources Service	Meeting with the deputy khyakim of the Lebap velayat, who was briefly introduced to the tasks of the group in the Lebap velayat and in one of the pilot districts - the Deinau etrap. A list of questions and the nature of the data required were presented. The heads of the following velayat services were invited to the meeting: <ul style="list-style-type: none"> • Nature Conservation Department of the Ministry of Agriculture and Environmental Protection of the Lebap Velayat • Department of Land Resources Service of Lebap Velayat • Agrochemical laboratory of Lebap velayat • Financial and Economic Department of Lebap Velayat

Date	Name / Position	Comments / Purpose of the meeting
	7.Sultanov Eziz, Head of the Nature Protection Department of the Lebap velayat 8.Nizamjan Baltaev, khyakimlik of Lebap velayat	<ul style="list-style-type: none"> • Production Association "Obasuvkhodjalyk" of Lebap velayat
07/01/2020	1. Ishshiyev Joshhun, Executive Officer of the khyakimlik of the Deinau etrap 2.S.Khudainazarov, Land Resources Service of Deinau Etrap 3.B.Rakhmanov, Economic Department of the khyakimlik of the Deinau etrap 4.T.Khemrakuliev, Agricultural Department	Meeting with the heads of the above-mentioned services at the etrap level. The tasks of the Project were also brought to the attention of these services. The necessary data was collected.
07/01/2020	1. Mukhammet Kurbanov, Head of the Land Resources Service of Lebap Velayat 2. Begench Charyev, Deputy Chief	Information about the land resources of the Deinau and Darganatinsky etraps was obtained
02.07.2020	Mehrijamal Abdyeva, Head of The Consolidated Department of the Financial And Economic Department of the Lebap velayat	Issues of development of the Lebap velayat, main state programs and co-financing of project activities were discussed
02.07.2020	1.Bazaar Ovezov, land resources service of Darganat etrap 2. Begench Baygeldyev, head of the "Obasuvkhodjalyk" department of the Darganat etrap 3.Kalandar Atamuradov, "Obasuvkhodjalyk" of the Darganata etrap 4.Osmanbek Matrizaev, department of statistics of khyakimlik of Darganata etrap	Meeting with representatives of water management service, land management service and statistical service of Darganata etrap. The data necessary for the initial stage of preparation of project proposals were collected.
02.07.2020	Ashir Mukhammedov, Head of the Middle Amu Darya section of the BWO "Amudarya" IFAS	Discussed cooperation with the BWO "Amu Darya" monitoring the quantity and quality of water at 4 gauging stations
02.07.2020	Zakir Achilov, head of the Agrochemical laboratory of the Lebap velayat	Exchange of views on the state of lands in Lebap velayat, issues of degradation and mapping of salinity
07/04/2020	Nizamjan Baltaev, chief specialist of the agricultural department of the khyakimlik of the Lebap velayat	Coordination of the selection of pilot sites

Date	Name / Position	Comments / Purpose of the meeting
06/07/2020 07/26/2020 09/06/2020	Eshhiyev Loshgun, manager of affairs of the khyakimlik of Deinau etrap	Coordination of the selection of pilot sites and drawing up a Protocol. Collection of information on pilot sites
06/07/2020	1.Karyagdy Sattarov, director of the Amudarya nature reserve 2.Ahmed Sadykov, Head Scientific department 3.Evgeniy Agryzkov, Researcher and other 10 employees of the reserve	Exchange of views on improving the environmental conditions of the commandments is, arrester and suggestions for the project
07/08/2020	1.Hadzhiev Annamukhamet , Head of the Department of Nature Protection of the Dashoguz velayat 2. Khodjabaev Recep, deputy. Head of Department 3.Ballyev Orazbay, head of department	The important tasks facing the Department and interest in the future project were noted. During the meeting, production problems were expressed
07/08/2020	1.Jumabaev Yagmur, director of the Kaplankyr reserve 2.Amanov Orazmurat, head of the scientific department 3.Ushakov Saparmurat, head of department 4.Tirkeshov Bayramberdy, Senior Researcher	Discussion of the environmental conditions of the Kaplankyr nature reserve, possible cooperation with the project, selection of a new territory for protected areas, the possibility of providing office space.
07/08/2020	1.Koshekbaev Murat, Head of the Dashoguz branch of EC IFAS 2. Rajapov Batyr, deputy. Head of the Dashoguz branch of EC IFAS	Discussion of capital investments due to the contribution of the Turkmen side to the IFAS and possible co-financing of the project.
07/09/2020	1.Saparmuradov Velmurad, Deputy Khyakim of Dashoguz velayat 2.Melyaev Gurbanmurat, Branch of IFAS 3.Babadjanov Mametoz, "Dashoguzsuvkhodjalyk" 4.Charyev Meilis, Deputy Khyakim of the etrap S. Turkmenbashi 5.Oraev Mametgeldy, Deputy Khyakim of the Ruhubelent etrap	The goals and objectives of the future project were reported. A general interest in the project was expressed and the requested data were provided for the Ruhubelent and S. Turkmenbashi etraps. During the meeting, the local leadership proposed the following pilot sites: in Ruhubelent etrap, FA "Ashyk Aydin", in S. Turkmenbashi etrap, FA "Ak Altyn" was proposed as a pilot site (and as an alternative - FA "Azatlyk").

Date	Name / Position	Comments / Purpose of the meeting
12-21.07.2020	Specialists FA Vatan, Parakhat, Babadaykhan, Kabakly and Tyaze Yurt	Discussion and completion of questionnaires
07/14/2020	Velmurad Saparmuradov, Deputy Khyakim of Dashoguz velayat	Signing of the Protocol on the selection of pilot etrap and daikhan associations
07/16/2020	Head of the department for land management of the khyakimlik etrap named after S. Turkmenbashi	A joint trip to the pilot FA Ak altyn was organized and information was received about land and water resources, as well as about the demographic situation
30 .07.2020	Venera Shaikhullina, Country Coordinator of the Green Central Asia (GCA) project	Clarification of existing developments and materials on the part of eco-waste and best water-saving practices. Finding possible common ground for a future UNDP and GCA project
30 .07.2020	Shirin Karryeva, National CADI Coordinator	The concept of creating a mobile information center in reserves to improve the education of the local population within the framework of the CADI project
08/21/20	Merdan Garayev, head of department at the Nature Conservation Society of Turkmenistan	Possible joint actions for environmental protection in Lebap and Dashoguz under the Aral PPG project.
08/21/2020	Administrator of the Dashoguz khyakimlik	Familiarization with the content of the questionnaires for assessing social and environmental risks
08/22/2020	Yolbars Kepbanov, expert on legal issues of national legislation of Turkmenistan (invited expert)	Consulting on the legislative aspects of a future project
28.08.2020	Azat Amandurdyev, khyakim of Darganatinsky etrap	Etrap details and project proposals
29. 08 .2020	Jumamurad Saparmuradov, Head of the Department of Environmental Protection and Hydrometeorology, Ministry of Agriculture and Environmental Protection, National Coordinator of the UN CBD	Coordination of the project target areas under Component a 2 and discussion of activities aimed at achieving the main results of the component.
09/10/2020 10/12/2020	Allamurad, head of the agricultural department of Darganatinskiy khyakimlik	Collection of information and written proposals for cooperation with the project
16.09.20 20	Dr. Vinay Nangia, Research Team Leader - Soil, Water, and Agronomy of the International Center for Agricultural Research in the Dry Areas (ICARDA)	Application of the CropSyst application to determine the yield of lands; analysis of soil, water and climatic indicators to obtain data on reducing resource degradation; conducting joint trainings with the Uzbek side.

Date	Name / Position	Comments / Purpose of the meeting
09/30/2020	1. Farhat Orunov, UNDP Program Specialist 2. Maya Ovezova, Expert of the Agriculture and Agro-industrial Complex Department of the Union of Industrialists and Entrepreneurs of Turkmenistan 3. Gulam Sylapov, Head of the credit department of the Joint-stock Commercial Bank "Rysgal"	Clarification of issues related to the development of a Project Proposal (PPG) on micro-schemes and their possible integration into the land and pasture management Component of the Project. Receipt of additional comments from the Bank regarding the state investment policies and procedures.
07.10.20 20	Aziz Kuliev, representative of the Academy of Preventive Diplomacy, UNRCCA	Possible joint actions to work with youth from Lebap and Dashoguz under Component 3
10/15/2020	1. Jeren Atamuradova, Credit Department Specialist, Dayhanbank 2. Kurban Charyev, Deputy Director of the Credit Department of Daykhanbank 3. Begench Orazdurdyev, Head of the Credit Department of the Khalkbank 4. Soltan Babaev, Director of the credit department of Senagatbank 5. Nury Gurdov, Director of the Accounting Department of Senagatbank 6. Batyr, financial department of Senagatbank 7. Vitaly Annaniyazov, Senagatbank 8. Myratgeldy Jumamuradov, Head of Credit Department of Turkmenbashibank 9. Syilap Durdyeva, specialist of the credit department of Turkmenbashibank	Discussion of the issues of the microscheme for financing NBDN activities: <ol style="list-style-type: none"> 1. Support for small and medium-sized agricultural producers for the sustainable use of leased pastures; 2. Does your bank have <u>additional types of financial loans</u> for individuals (consumer loans related to agriculture)? 3. Do you have any information about the extent to which loan recipients (according to Decree No. 942) use the proposed loans at 1% and 5%? 4. Is the bank interested in providing loans to agricultural workers for land restoration? What are the barriers and risks?
19.10.2020	Dr. Jamal Annagylyjova, Regional Liaison Officer, Central and Eastern Europe External Relation, Policy and Advocacy Unit	Updating the National Plan to Combat Desertification, the National Goals NBDZ (LDN) - support of the UNCCD Secretariat, the possibility of training

Annex 18: Gender Analysis and Gender Action Plan

Gender Analysis

The UNDP Strategy for Gender Equality 2018-2021, adopted in 2018 at the second session of the Executive Board of UNDP, UNFPA, UN Office for Project Services, reaffirmed the commitment to organize a mission to support countries in implementing the Agenda for Sustainable Development and Gender Equality.

The UNDP recognizes that gender equality is a fundamental human right, the realization of which lays necessary foundation for a peaceful, prosperous, and sustainable world. In the context of this GEF - UNDP Turkmenistan project "Conservation and sustainable management of land resources and high value ecosystems in the Aral Sea basin for multiple benefits", it is important to note the following aspects of the adopted Strategy:

- The strategy highlights, among other objectives, the UNDP's commitment to expanding gender mainstreaming into UNDP's work in the environment, energy and crisis response and recovery.
- The Strategy sees women and men as active agents of change and, as a result, it focuses on empowering marginalized populations and empowering them to make their own life decisions and participate in the development of their societies.

The Gender Equality Policy, adopted by the GEF Council in 2017, confirms the work of promoting gender equality as a cross-cutting priority in the activities of the organization and its partners, and also recognizes that achieving global environmental benefits without integrating gender approaches is impossible. Among the key principles of the new gender policy is the adoption of the provision that men and women use natural resources differently, and, as a result, they are affected differently by changes in these resources. Gender inequality and social exclusion exacerbate the negative impact of environmental degradation on women and girls. It is important to note that the GEF gender policy, based on the experience of past activities and taking into account the SDGs (and their main principles - no one left behind, etc.), makes the rationale for the transition from a gender-aware approach, guided by the principle of "do no harm" to a gender-sensitive approach, working on the principle "do good".

Both UNDP and the GEF require a gender responsive approach, an approach in which the particular needs, priorities, power structures, status and relationships between men and women are recognized and adequately addressed in the design, implementation and evaluation of activities. The approach seeks to ensure that women and men are given equal opportunities to participate in and benefit from an intervention, and promotes targeted measures to address inequalities and promote the empowerment of women.

Following the UNDP-GEF Gender Mainstreaming Guide⁸⁴, the Gender Analysis has identified key considerations that can advance gender integration and which overall, can enhance the outcomes associated with each of the related components in the project.

Gender Analysis Methodology

This Gender Analysis was carried out on the basis of a methodology using several methodological tools:

- Review of documents and legislation using the Legislation Assessment Tool for Gender Equitable Land Tenure developed by UN FAO⁸⁵;
- Analysis of statistical data from official sources and available gender reports to determine the general socio-economic conditions of women and men in Turkmenistan;
- Primary data obtained through surveys of residents of Dashoguz and Lebap velayats, NGO activists and government officials from the field of natural resource management;
- Information obtained during the discussions at field visits of the project experts to Lebap velayat, Deinau and Darganata etraps, Amu Darya State Nature Reserve, Dashoguz velayat, Kaplankyr State Nature Reserve regarding access to land, water and other natural resources, as well as practices of nature management.

⁸⁴ UNDP -GEF (2016) Guide to Gender Mainstreaming in UNDP supported GEF Financed Project.

⁸⁵ <http://www.fao.org/gender-landrights-database/legislation-assessment-tool/ru/>

The above sources of analysis use the methodological framework presented in the Guidelines for Promoting Gender Equality in GEF Projects and Programs⁸⁶.

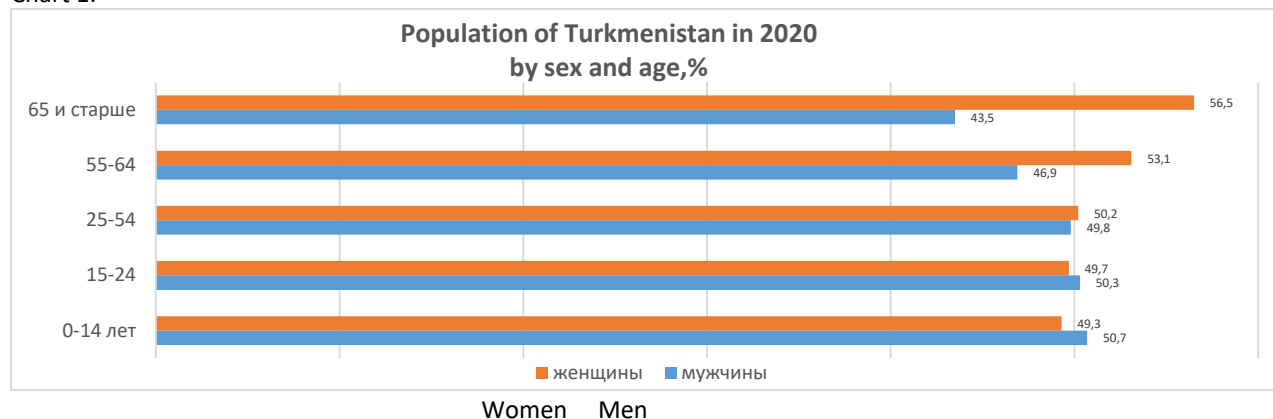
Limitations: The gender analysis was carried out during the Covid 19 pandemic, and the international gender expert was not able to participate in field research and consultations with stakeholders. This influenced the receipt of full information on the gender aspects of the situation in the implementation of the project. An in-depth study of gender aspects regarding access to and use of natural resources among the population of the pilot territories, their environmental management practices, attitudes towards biodiversity and perceptions of climate change and the importance of adaptation measures required a more rigorous methodology (in particular, the sampling of respondents). Also, the very work on collecting primary data on the developed questionnaires should have been more methodologically provided (unfortunately, the answers to some questions in the questionnaires rather indicated that the essence of the question was incomprehensible to the respondent). Methodological errors of field research undoubtedly reduce the value of the obtained information on gender differences in the field of ensuring resilience to climate change and biodiversity conservation and effective management of natural resources. These limitations indicate the need for additional efforts to integrate a gender perspective into project activities at the stage of project implementation.

- **Socio-economic context of gender analysis**

According to statistics for 2020, the population of Turkmenistan is 6,068,796 people, of which 50.3% or 3,052,604 are women⁸⁷. 52% of the population are urban residents, 48% are villagers.

In 2020, the sex-age pyramid is compiled as follows⁸⁸: children and adolescents make up a quarter of the population, the elderly population aged 65+ is less than 6%. The total working-age adult population in Turkmenistan is 3.821.293 people.

Chart 1.



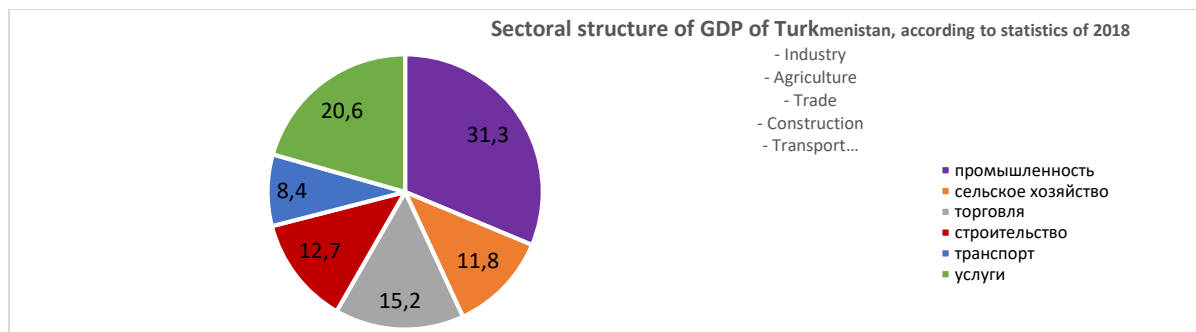
Overall, the sex ratio is 0.98 males per woman (at birth = 1.05) in 2019. The birth rate was 18.3 births per 1000 population, and the death rate was 6.1 per 1000 population. The infant mortality rate was 30.8 deaths per 1000 live births. The total life expectancy in 2019 was 71.3 years, including 68.2 years for men and 74.5 years for women. The fertility rate was 2.04 children per woman. The economy of Turkmenistan is characterized by the dominance of the fuel, energy and transport sectors; in general, industry accounts for more than a third of Turkmenistan's GDP.

Diagram 1

⁸⁶ Guidance to Advance Gender Equality in GEF projects and programs. https://www.thegef.org/sites/default/files/council-meeting-documents/EN_GEF.C.54.Inf_05_Guidance_Gender_0.pdf

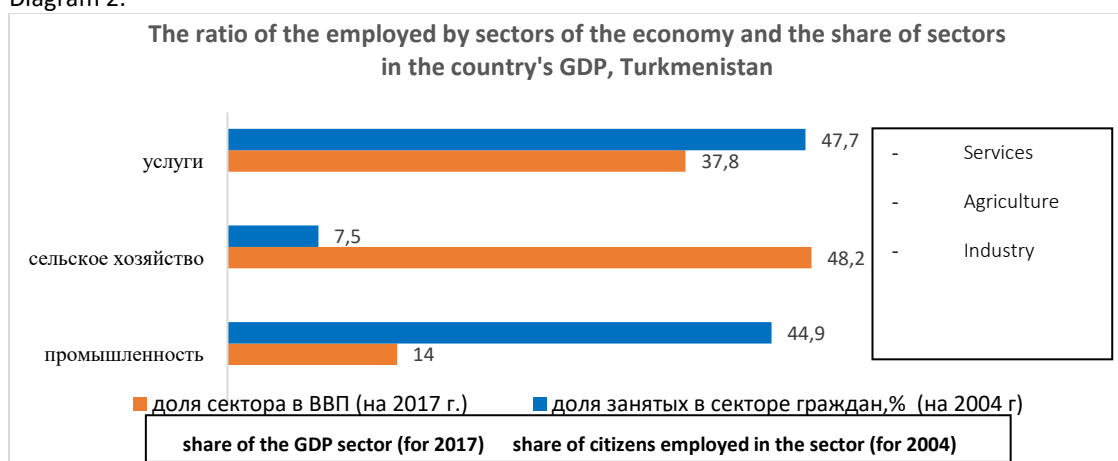
⁸⁷ <https://knoema.com/atlas/Turkmenistan> ; <https://worldpopulationreview.com/countries/turkmenistan-population>

⁸⁸ <https://www.cia.gov/library/publications/the-world-factbook/geos/tx.html>



The share of sectors in the GDP of Turkmenistan has changed significantly over the past decade and, according to external sources, there is an increase in the share of the service sector, while the shares of industry and agriculture have decreased. (see diagram 2)

Diagram 2.



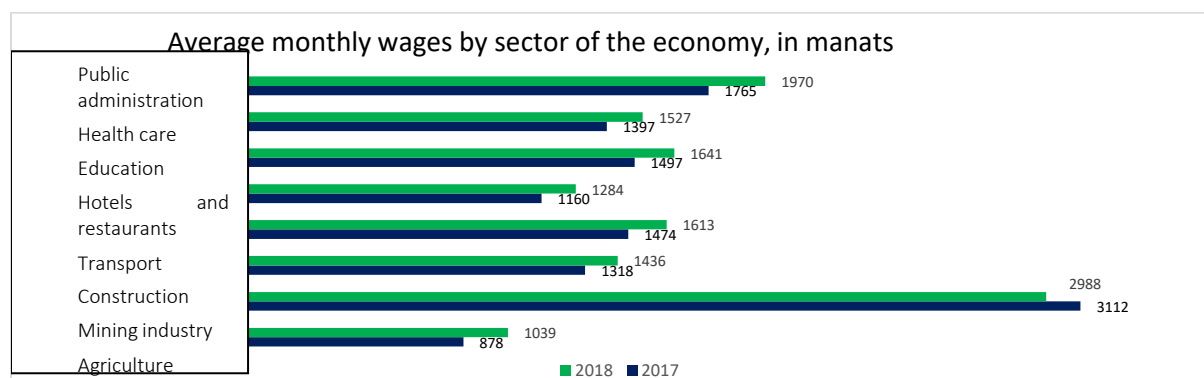
Taking into account the differences between various sources of statistical information on agriculture in Turkmenistan (from 7.5% to 11.8% in the sectoral structure of GDP), and the high share of the labor force employed in agriculture and a relatively low contribution to the country's GDP, noted in these statistics, it is important to mention that most likely all rural residents are automatically recognized as employed in agriculture in external sources. Meanwhile, some studies, such as the FAO study “The Income Growth Potential of the Rural Population of Turkmenistan from Alternative Crops”⁸⁹ provides insight into the agricultural labor force. According to researchers, the following proportions have been characteristic for a long time: about half of the country's population is rural, of which about half is the able-bodied rural population, and already about half of them are engaged in agricultural labor. For example, in 2007 the rural population amounted to 3,193.7 thousand people, including 1900 thousand people of the able-bodied population in the countryside, or 59.5%. According to the calculations of researchers, there were 879.4 thousand people employed in rural areas, who, together with students and military servicemen, made up 51.8% of rural residents of the working population. Thus, the remaining 48.2% of the able-bodied rural population (or 915.6 thousand people) were not employed. The authors of the report believe that studies and calculations over long periods of time indicate a more or less stable ratio of employed and unemployed rural residents, about half of the working-age rural population remains unemployed⁹⁰. At the same time, official statistics show that 43.3% of the

⁸⁹ I. Stanchin, C. Lerman., D. Sedik. 2011. Potential of Income Growth for the Rural Population of Turkmenistan on the Basis of Alternative Crops. Agricultural Transition Policy Studies No. 1 FAO, Regional Office for Europe and Central Asia. <http://www.fao.org/3/aq340r/aq340r.pdf>

⁹⁰ I. Stanchin, C. Lerman., D. Sedik. 2011. Potential of Income Growth for the Rural Population of Turkmenistan on the Basis of Alternative Crops. Agricultural Transition Policy Studies No. 1 FAO, Regional Office for Europe and Central Asia. http://www.fao.org/3/aq340r/aq340r.pdf_p.12

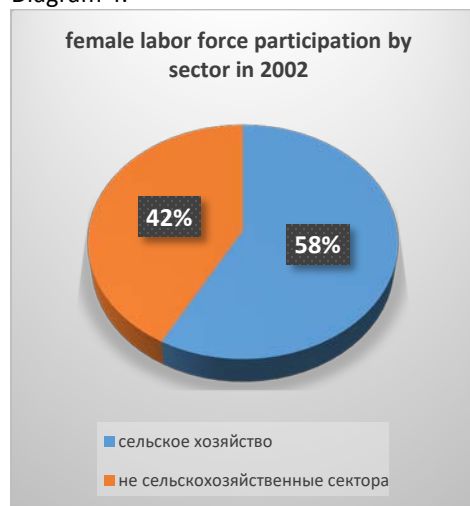
country's population was employed in the agriculture of Turkmenistan in 2018⁹¹. In the structure of incomes of the rural population, labor income, including cash income from personal subsidiary plots in 2018, amounted to 82.9%, 13% were social payments (pensions, benefits, etc.), and other cash incomes amounted to 4.1%. The income of the population employed in agriculture is the least attractive of all sectors of the economy, although statistics represent the annual growth in wages of workers. So, for example, in 2017, the average monthly wage in agriculture in monetary terms was 49.7% of the average monthly wage in the state management, and 28.2% of wages in the mining industry, and in 2018 there is a slight increase. For example, in comparison with wages in public administration, the average monthly wage of agricultural workers was 52.7%, and in comparison with workers in the mining industry - 34, 8%.

Diagram 3⁹².



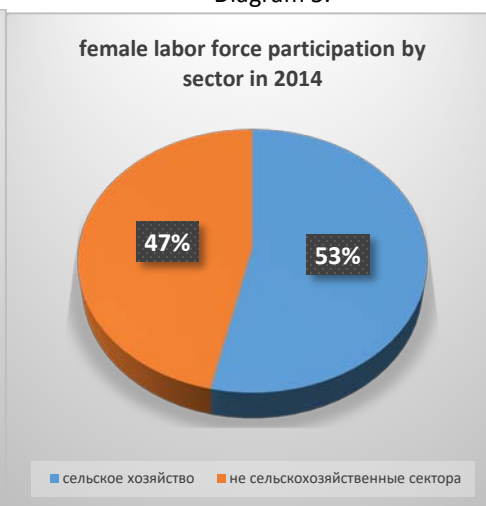
According to the World Bank⁹³, in 2002 women accounted for 58% of those employed in agriculture and 42% in other sectors of the economy (see diagrams 4 and 5). According to the UN FAO, in 2014 735 thousand people worked in agriculture, including 393 thousand or 53.5% of women.

Diagram 4.



Agriculture Non-agricultural sectors

Diagram 5.



Agriculture Non-agricultural sectors

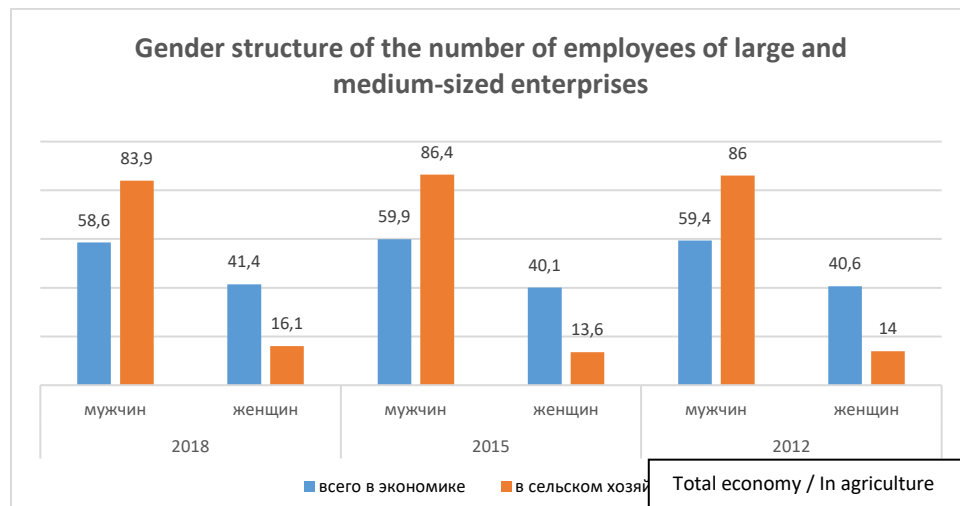
⁹¹ Statistical Yearbook of Turkmenistan, 2018. State Committee of Turkmenistan on Statistics. Ashgabat, 2019

⁹² Statistical Yearbook of Turkmenistan, 2018. State Committee of Turkmenistan on Statistics. Ashgabat, 2019

⁹³ Gender at a glance. <http://data.worldbank.org/topic/gender>

Official statistics presents the following data on the structure of the number of employees of medium and large enterprises - both as a whole for the country and by industry (agriculture is presented here, but data for all sectors of the economy are available):

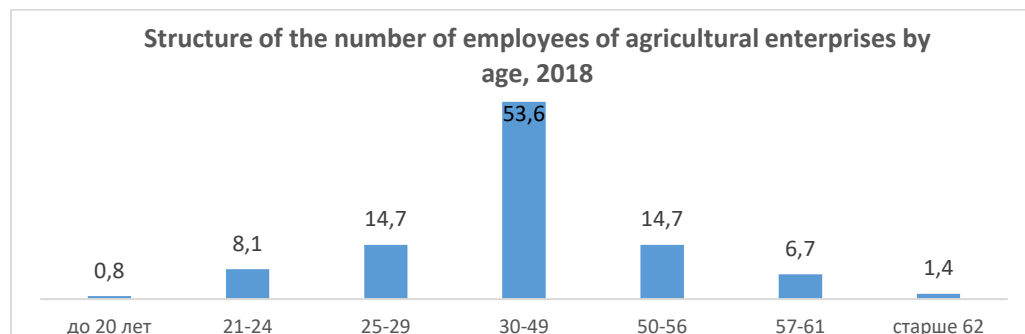
Diagram 6⁹⁴



That is, as can be seen from Diagram 6, in general, women of working age are less employed in social production than men, but in agriculture the gap in favor of men seems to be critically significant, even despite the increase in the share of women in the structure of the number of employees at enterprises.

Also important is information on the age structure of the number of employees in agricultural enterprises.

Diagram 7⁹⁵.



The average age of agricultural workers - both men and women - is more than 39 years in 2018 (on average, 40+ across all sectors of the economy). That is, young workers (under 30) appear to be more likely unemployed than older people. Perhaps the smaller share of young workers is due to the fact that it is young women and girls who are not actively involved in the labor market, possibly due to the priorities set on child rearing. This issue requires a separate study, but it is likely that it may reflect gender barriers for young women in the labor market.

The 2015 IBRD/IMF Profile of Turkmenistan states: “Despite impressive growth in average incomes, sectoral and regional inequalities persist. In 2013, according to official figures, the difference between the incomes of the neediest and the wealthiest was 30 percent. Regionally: average wages in Akhal region were 60% of the

⁹⁴Statistical Yearbook of Turkmenistan, 2018. State Committee of Turkmenistan on Statistics. Ashgabat, 2019, page 288

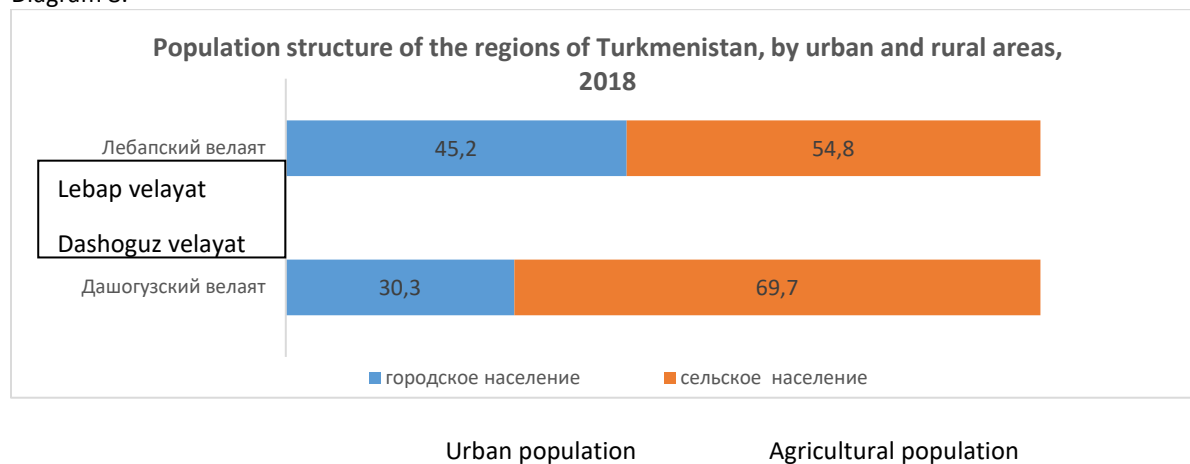
⁹⁵ Ibidem, p. 275

corresponding wages in Balkan region. Access to drinking water continues to be a major problem: less than 30 percent of rural households are connected to piped water supplies, and the same is true for about 18 percent of the urban population. Income inequality correlates with non-income inequality and access to basic social services, including public sector health services”⁹⁶.

In Lebap and Dashoguz velayats of Turkmenistan, selected as pilot regions of the project, working conditions in agriculture and the way of life of men and women differ significantly due to the climatic and economic characteristics of the regions. The population of Lebap velayat is 1,371.1 thousand people⁹⁷, including 49.9% (684,179) men and 50.1% (686,921) women⁹⁸. The population of Dashoguz velayat is 1409.4 thousand people, including 49.8% (701,881) men and 50.2% (707,519) women⁹⁹.

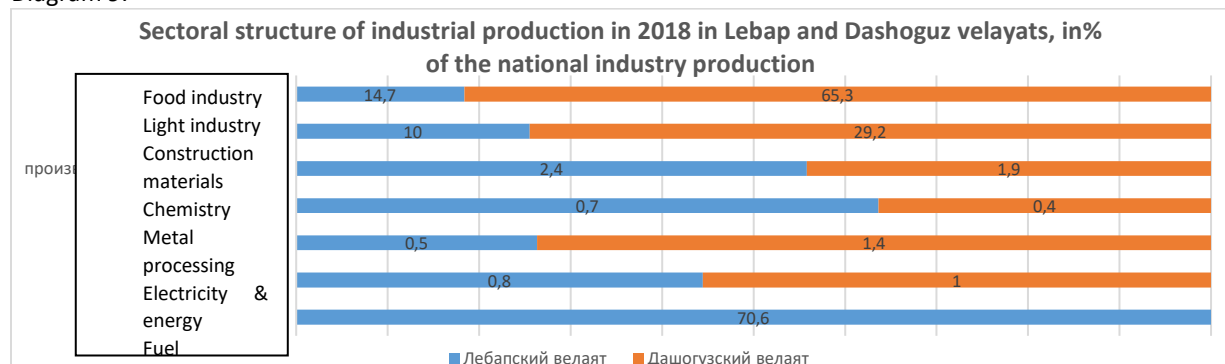
In Lebap velayat there is a large proportion of urban residents (15 cities and 444 villages and settlements), in Dashoguz velayat, rural residents prevail - there are 9 cities and 613 villages and settlements in the velayat.

Diagram 8.¹⁰⁰



There are quite significant differences in the regional economies (see Diagrams 9 and 10). The economy of Dashoguz velayat is represented primarily by the textile and food industries; granite, marble, limestone and other minerals are mined here. Agriculture is dominated by the cultivation of cotton, melons, grapes, sheep and camels.

Diagram 9.



⁹⁶ International Bank for Reconstruction & Development, International Finance Corporation, Multilateral Investment Guarantee Agency – Joint Country Engagement Note for Turkmenistan. Report # 99556 – TM. October, 2015

⁹⁷ <https://www.science.gov.tm/turkmenistan/regions/>

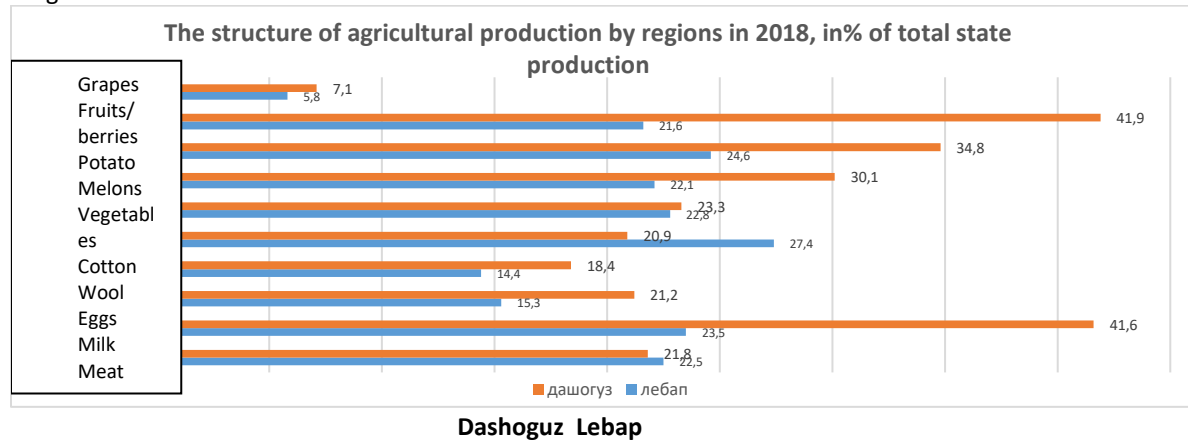
⁹⁸ Statistical Yearbook of Turkmenistan, 2018. State Committee of Turkmenistan on Statistics. Ashgabat, 2019, page 18

⁹⁹ Also, respectively: <https://www.science.gov.tm/turkmenistan/regions/> and the statistical yearbook of Turkmenistan 2018, State Committee of Turkmenistan on Statistics. Ashgabat, 2019, page 18

¹⁰⁰ Statistical Yearbook of Turkmenistan, 2018. State Committee of Turkmenistan on Statistics. Ashgabat, 2019, page 20

Lebap velayat Dashoguz velayat

Diagram 10.



The economy of Lebap is represented by the fuel industry; the chemical industry and the construction industry have become widespread, animal husbandry, cotton growing, melon growing, grain growing, and silkworm growing are developed. The velayat ranks first in the country in the production of silk fabrics and cotton. In the deserts, distant-pasture sheep breeding (mainly karakul breeding) has been formed. Fabrics, knitwear, flour, and confectionery are produced¹⁰¹.

The United Nations Economic and Social Commission for Asia and the Pacific (UN ESCAP) Report published in 2020, focused on Turkmenistan, "Inequality of Opportunity"¹⁰² finds inequalities in seven areas that affect human life prospects: education, child nutrition, women's access to sexual and reproductive health, access to basic water and sanitation services, access towards clean energy, ICT use and financial inclusion (all of these areas are in line with the key objectives of the global sustainable development agenda). Based on the data of the multi-indicator cluster survey in Turkmenistan in 2015, the D-index was determined (that is, the index measuring the inequality of opportunity- the index of dissimilarity, the gap of vulnerable groups, those who were left behind from those who are ahead of development). The report does not contain specific "targeted" indications where the most deprived citizens of Turkmenistan, deprived of access to basic goods and services, live, and in this sense cannot be confidently attributed to the pilot regions of this project. However, the situation in the villages of the project targeted districts/regions cannot be very different from the findings of the report. An assessment of the gap index (D-index) in access to drinking water established: on average, 84% of the country's population has basic access to clean drinking water. At the same time, almost 60% of families living in rural areas have a significant gap in access to water, while 98% of urban residents are provided with drinking water and have stable access. Among the poorest rural residents, only 26% have access to the Internet. Poorer women live in rural areas, with only 6% of them having completed higher professional education, compared with 33% of women from other socio-economic groups. Only 39% of women aged 15 to 24 have access to / use family planning and personal reproductive activities.

Analysis of the Gender related Legislation of Turkmenistan

The Constitution of Turkmenistan¹⁰³ guarantees citizens' rights and freedoms; human rights are recognized as inalienable and inviolable. In addition to fundamental human rights, the Constitution of Turkmenistan establishes

¹⁰¹ https://ru.wikipedia.org/wiki/%D0%9B%D0%B5%D0%B1%D0%B0%D0%BF%D1%81%D0%BA%D0%B8%D0%B9_%D0%B2%D0%B5%D0%BB%D0%B0%D1%8F%D1%82

¹⁰² Social Development Division of UN-ESCAP. Inequality of Opportunities: Who are those left behind? Turkmenistan. Policy Paper, 2020.06 <https://www.unescap.org/resources/inequality-opportunity-who-are-those-left-behind-turkmenistan>

¹⁰³ 1991 Constitution, as amended in 2008

the following among the rights and freedoms:

- equal rights of women and men and establishes that violation of equality on the basis of sex is punishable by law (Article 20);
- equality of spouses in family relations (Article 27);
- regardless of the sex of citizens: equal rights to work (Article 33); equal rights to health care and the right to social security according to age (Articles 35 and 37); the right to education (Article 38).

The gender legislation of Turkmenistan is based on a number of international Conventions and Agreements ratified in May 1997, including the most important documents for promoting gender policy:

Convention on the Elimination of All Forms of Discrimination against Women - CEDAW, International Covenant on Economic, Social and Cultural Rights - ICESCR and International Covenant on Civil and Political Rights - ICCPR. Later, in 2009, the country acceded to the Optional Protocol to the Convention on the Elimination of All Forms of Discrimination against Women, CEDAW-Optional Protocol.

The key national gender legislation is the Law of Turkmenistan "On state guarantees for ensuring equal rights and equal opportunities for women and men", adopted on August 18, 2015. An important achievement was the development and approval of the National Action Plan for Gender Equality for 2015-2020, which included measures to strengthen support for women in education and the labor market, as well as to raise awareness of their rights and how to ensure them, especially in rural areas.

The Labor and Family Codes are of great importance in strengthening gender equality. The purpose of the family legislation of Turkmenistan is to establish state guarantees for the protection of the family, motherhood, fatherhood and childhood, create conditions for the economic independence of the family and the growth of the well-being of all its members. The Family Code¹⁰⁴ recognizes the priority of the rules of international treaties, establishes the principles of analogy of right and analogy of law, guarantees equality of rights of men and women in the family and marriage sphere (Article 14). It also establishes the freedom for spouses to determine their property rights in accordance with the concluded marriage contract (Article 43), equality of parental rights of both spouses. The Family Code introduces a ban on discriminatory practices: a ban on polygamy (Article 7, paragraph 4).

According to the Labor Code, labor relations between employers and employees are governed exclusively by labor contracts, which can be concluded for an indefinite period (unlimited) and for a specified period (fixed-term), but not more than five years. The Labor Code defines categories of persons - women, disabled people and minor children - as those in need of greater social protection (Article 7. Prohibition of discrimination in labor relations). With regard to pregnant women and mothers with small children under three years old (and disabled children under 16 years old), special measures are provided to prevent discrimination in the field of work, including: unjustified refusal to conclude employment contracts (Article 24. Guarantees upon entering into an employment contract p. 5; Article 241. Guarantees for pregnant women and women with children when hiring and terminating an employment contract), the introduction of a probationary period for hiring (Article 28. An employment contract with a probationary period, p.4.5), etc.

The Code also provides special measures to support the family roles of women workers (pregnant women, with children under 3 years old and with children with disabilities under 16 years old - Article 63. Part-time work; Article 244: Shorter working hours for pregnant women working in agricultural work) and other family members (Article 97. Parental leave). In the legacy of Soviet labor legislation, there are also norms prohibiting the use of female labor in difficult and harmful work, overtime and after hours, etc. (Article 242. Work in which the use of women's labor is prohibited; Article 243. Features of the working regime for women and other persons with family responsibilities, Article 284. Restrictions on the rotational work method).

¹⁰⁴ Family Code of Turkmenistan dated January 10, 2012 No. 258-IV

The Code of Turkmenistan "On Land" defines the legal, organizational and economic basis for land management and is aimed at rational use, land protection, preservation and improvement of the natural environment, the use of various forms of economic activities on land, regulation of land relations. The Code consists of 21 chapters containing 122 articles. The Code establishes that the Land in Turkmenistan is the property of the Turkmen people, is under state protection and is subject to rational and efficient use. The Code provides for the following forms of land use: ownership, use and lease.

The Code does not contain gender-sensitive mechanisms that would allow women to have equality not only of rights, but also opportunities, as well as achieve equality of results in land ownership and land management. Meanwhile, as noted in the FAO report, the agrarian reform, which began in the 90s, was focused on transferring land for private use and long-term lease, as well as expanding the area of household plots. Individual farms and daikhan - peasant associations of several farms - became widespread. The main change was the shift from collective farming to more individualized farming. In 2014, there are more than 5,000 such farms operating on 81,000 hectares. The so-called peasant associations were organized by presidential decree instead of the traditional collective and state farms, and each association was instructed to hand over its large fields to individual tenants - usually the heads of families. Traditionally, a man is recognized as the head of the family in a household. Thus, de jure, the right to manage leased land is most likely assigned to men. There are no official statistics on the share of land allocated to women. The authors of the report on social institutions and gender equality in Turkmenistan¹⁰⁵ believe: "Patriarchal traditions have left a legacy of discrimination regarding land rights, and there is no evidence that women's access to land has improved. Although men and women have equal legal rights with respect to access to property other than land, patriarchal traditions favoring men prevail." But legislation governing land administration does not address these and other gender dimensions.

The Law of Turkmenistan "On State Regulation of Agricultural Development" dated 06/09/2018 is aimed at "increasing the production of agricultural products and food, goods and raw materials, providing the population with ecologically clean food products, creating food abundance, increasing the supply of raw materials for the processing industry and determining legal basis for the implementation of state socio-economic policy for the stable development of settlements located in rural areas." The Law establishes the basic principles of the State Agrarian Policy in the field of state regulation of the development of agriculture:

- 1) availability of state support for agricultural producers;
- 2) openness of information about state agrarian policy;
- 3) the use of economic incentives that contribute to the stable and rational use of land, water resources and other natural resources to improve the efficiency of agricultural production;
- 4) the unity of the market for agricultural products and the food market, the creation and provision of equal conditions for competition of agricultural producers in this market;
- 5) implementation of measures to ensure the consistency of state agrarian policy and its sustainable development;
- 6) participation of agricultural producers in the improvement and implementation of state agricultural policy.

The Law indicates the importance of providing the agricultural sector with competent personnel and plans to put agricultural development on a scientific basis (Chapter VI. Training of specialists in the field of agriculture and scientific support). Despite the existing imbalance in the representation of women trained and certified in the vocational education system in agriculture, as well as the fact that women make up the majority of workers in the agricultural sector, the tasks of training and support of personnel do not contain special measures to support women.

There is no gender sensitivity in a number of legal acts in the field of agricultural regulation: the Laws of Turkmenistan "On pastures" dated August 18, 2015, "On grain growing" dated March 20, 2017, "On the State Land Cadaster" dated November 25, 2017, "On farms" from 30.03.2007.

The Code of Turkmenistan "On Water" is aimed at increasing the importance of rational use and protection of water resources. The Code is formulated in language in which water users - citizens have equal rights to access water,

¹⁰⁵ Social Institutions and Gender Index. Gender Equality and Social Institutions in Turkmenistan. Available at <http://genderindex.org/country/turkmenistan>

presumably regardless of gender. At the same time, practical issues of prioritizing access to water in agricultural activities can be very gender-sensitive, and women tenants and heads of households can find themselves in a vulnerable situation due to the prevalence of patriarchal gender stereotypes.

Another NLA - the Tax Code of Turkmenistan of 2004, in order to promote business activity aimed at reducing unemployment, especially in rural areas, provides for a number of measures to support agricultural producers and processing enterprises: exemption from income tax and land payments for a period of 5 years from the moment of land purchase. Article 106 (Benefits on taxable transactions), Article 143 (Benefits) and Article 170 (Benefits on income tax) provide tax incentives for agricultural enterprises¹⁰⁶, but gender aspects of leadership in these types of enterprises, benefits and costs of heads of daikhan associations or other types of agricultural enterprises and associations in the Law are not updated.

The table below visualizes and summarizes the gender analysis of agricultural legislation.

Key factor 1: Ratification of human rights treaties	Yes\ No	Legal basis	Recommendations
The Convention on the Elimination of All Forms of Discrimination against Women has been ratified	Yes		
International Covenant on Economic, Social and Cultural Rights - ICESCR	Yes		
International Covenant on Civil and Political Rights - ICCPR	Yes		
Optional Protocol to the CEDAW Convention on the Elimination of All Forms of Discrimination against Women	Yes		
Key Factor 2: Elimination of Gender Discrimination in the Constitution	Grade	Legal basis	Recommendations
The Constitution prohibits sex discrimination	4	The Constitution, all ratified conventions, the Law of Turkmenistan "On State Guarantees for Ensuring Equal Rights and Equal Opportunities for Women and Men"	
The Constitution recognizes customary law (or religious law), but states that gender discrimination in customary law is supplanted	N\A	The Constitution of Turkmenistan enshrines the principle of secularity and the rule of law	

¹⁰⁶ Article 106. Benefits for taxable transactions:

1. Value added tax is not paid when carrying out the following taxable transactions:

- sale by agricultural enterprises of processed products of their agricultural products, except for butter products;
- sale of raw cotton processing products (cotton fiber, cotton seeds, lint, uluk, down, waste);
- sale of seeds; silkworm cocoons and greens and services for their cultivation; mineral fertilizers; herbicides, pesticides and other plant protection products; services for the supply of water for the cultivated areas of agricultural producers through the on-farm irrigation system and drainage of water through the on-farm drainage system, as well as mechanized services for the production and collection of agricultural products;
- sale of Saraja wool of spring shearing and yarn from this wool, as well as the implementation of services for washing (including cleaning and sorting) of this wool and for the production of yarn (including dyeing) from this wool;

Article 143. Benefits: The following are exempt from property tax:

- agricultural enterprises;

Article 170. Income tax benefits: The following are exempted from income tax:

- agricultural enterprises.

by the principle of non-discrimination in the Constitution			
Constitution promotes the adoption of special measures to improve the status of women	0	Equality of rights is guaranteed by the Constitution. Equality of opportunities and results is not articulated as a goal, and special measures to support women are not established	There are no standards on countering domestic violence as one of the most important barriers to advancing gender equality
Key factor 3: recognition of women's legal capacity		Legal basis	
Men and women have the ability to enter into contracts under the same basic conditions, with the same rights and obligations	4	Civil Code, Law of Turkmenistan "On state guarantees for ensuring equal rights and equal opportunities for women and men"	
Men and women can apply for identity documents under the same conditions	3	About citizenship of Turkmenistan	
A female citizen can transfer citizenship to his non-local spouse under the same conditions as a male citizen	3	About citizenship of Turkmenistan	
Women can pass on their citizenship to their children under the same conditions as men	4	About the citizenship of Turkmenistan, Family Code	
Key Factor 4: Gender Equality in Property Rights	Grade	Legal basis	Recommendations
The law recognizes gender equality in the right to own and control property, regardless of the type of marriage	4	Family Code, Law of Turkmenistan "On State Guarantees for Ensuring Equal Rights and Equal Opportunities for Women and Men", Code "On Land", etc.	
The Law recognizes full or partial joint ownership of spouses as the legal regime of spouses' property by default	3	Civil Code	
The consent of the spouses is mandatory for any transactions that involve the disposal of family property	3	Civil Code	
Joint ownership of property in informal marriages is presumed by law	0	The Family Code recognizes marriage relations only as a result of state registration	
The legal framework includes special measures to guarantee the equal rights of women to land, property and / or productive resources	4	Land Code, Civil Code, Labor Code, Family Code	The expediency of including special measures to secure the ability to dispose of the land share received as part of the parental family for girls getting married, property rights of women in case of divorce, etc.
Key Factor 5: Gender Equality in Succession Law	Grade	Legal basis	Recommendations

The surviving spouse is granted a lifetime right to use the matrimonial home	3	Civil Code	
In inheritance law, the surviving spouse is entitled to a minimum share of the matrimonial property	3	Civil Code (Heir to the first stage)	
The law allows informally married spouses to be heirs to each other	0	Civil Code	
Brothers and sisters have equal inheritance rights	3	Civil Code	It is advisable to examine the gaps in norm and practice
Brothers and sisters receive equal shares of the inheritance	3	Civil Code	
Brothers and sisters who have renounced their share of the inheritance in family property are entitled to compensation.	0	The possibility of receiving monetary compensation is established by the Civil Code, but there is no specification in case of refusal to share in the property. It is advisable to note that "transactions related to land plots (purchase and sale, donation, pledge, exchange, etc.) are prohibited"	
Key Factor 6: Realizing Gender Equity, Dispute Resolution Mechanism and Access to Justice	Grade	Legal basis	Recommendations
Decentralization of land management services is carried out through authorized land institutions	1,5	Code "On Land", Law "On Daikhan Associations", etc..	The Land Code sets out the powers of various state bodies for land management. But in order to prevent duplication, it is advisable to have a clearer division of powers between bodies at different levels.
Decentralization of land management services is carried out through authorized land institutions	1,5	Code "On Land", Law "On Daikhan Associations", etc..	
The law guarantees equality before the law	1,5	Constitution, Civil Code, etc.	
The law guarantees equal access to the judiciary and legal or traditional dispute resolution mechanisms to resolve land tenure disputes	3	Access to mechanisms for resolving land disputes is established by the Land Code	
The law provides for legal support in procedural civil law	0	The Civil Code and the Civil Procedure Code do not establish a corresponding norm	An important support measure could be procedures for legal support of women - agricultural producers, united in farms and / or other legal entities on the issues of land disputes and other economic disputes related to agro-industrial development
Human rights commission and gender-specific institutions established	2	There is an institution of the Commissioner for Human Rights	In the new NAP on gender equality, it is advisable to

		of Turkmenistan (Ombudsman), there is an Interdepartmental Commission to ensure the implementation of Turkmenistan's international obligations in the field of human rights and international humanitarian law. The National Action Plan for Gender Equality 2015-2020 is being implemented	include indicators - women occupying leading positions in the field of agro-industrial production, including business, as well as the number of professionally educated women - personnel for this sphere
Key Factor 7: Women's Participation in National and Local Land Law Institutions	Grade	Legal basis	Recommendations
The law establishes quotas for the appointment of women in land use and land administration committees	0		It is advisable to include such measures as quotas for women's participation in strategic land administration structures
The law sets quotas for the appointment of women to land dispute resolution committees	0	State regulation in the field of land relations is carried out by the Cabinet of Ministers of Turkmenistan, the state body for land management, local executive authorities and local self-government bodies. Each of these bodies at its level considers and resolves land disputes. The representation of women in these structures is not regulated by law.	In the case of decentralization of decisions in this area, such quoting is advisable
Assessment Methodology and Scoring (Grades)			
Lack of indicator in the regulatory framework	0 grades		
Policy in the process of discussion	1 grade		
Policy present	1,5 grades		
The bill is being discussed \ submitted for discussion	2 grades		
The indicator is present in the primary legislation	3 grades		
The indicator is present in numerous legal documents	4 grades		
Not applicable	N\A		

Thus, the gender analysis of legislation allows, on the one hand, to state that Turkmenistan has developed a strategy to promote gender equality and is consistently taking steps to implement generally recognized international legal norms and provisions concerning the creation of equal opportunities for men and women into national legislation and practice. At the same time, in the specific area of agricultural development, biodiversity conservation and sustainable management of natural resources, the goals of promoting gender equality and empowering women require additional efforts. As the summary table shows, more measures are needed for key factors 5, 6 and 7 (Gender equality in inheritance law;

Realization of gender equity, Dispute resolution mechanism and access to justice; Participation of women in national and local institutions working in the field of land legislation).

Gender analysis of factors of sustainable management of land resources and high value ecosystems in the Aral Sea Basin for multiple benefits

Having different roles and statuses, different needs in family and work life, men and women use natural resources in different ways, influence the environment in different ways and participate in solving environmental problems to varying degrees. The GEF Gender Implementation Strategy identifies three gender gaps that are prioritized for project and program planning¹⁰⁷. These gender gaps address: unequal access to and control over natural resources; unbalanced participation in decision-making in environmental planning and management at all levels; unequal access to social and economic benefits and services. To study the presence of gender gaps or gender balance in these areas, within the framework of this project, consultations were held in the format of a survey¹⁰⁸ of stakeholders - local residents in the pilot regions. The information and data presented below are based on the results of a survey conducted in Lebap and Dashoguz velayats. Below are the most important socio-demographic characteristics of the stakeholders - the survey respondents.

Diagram 11.

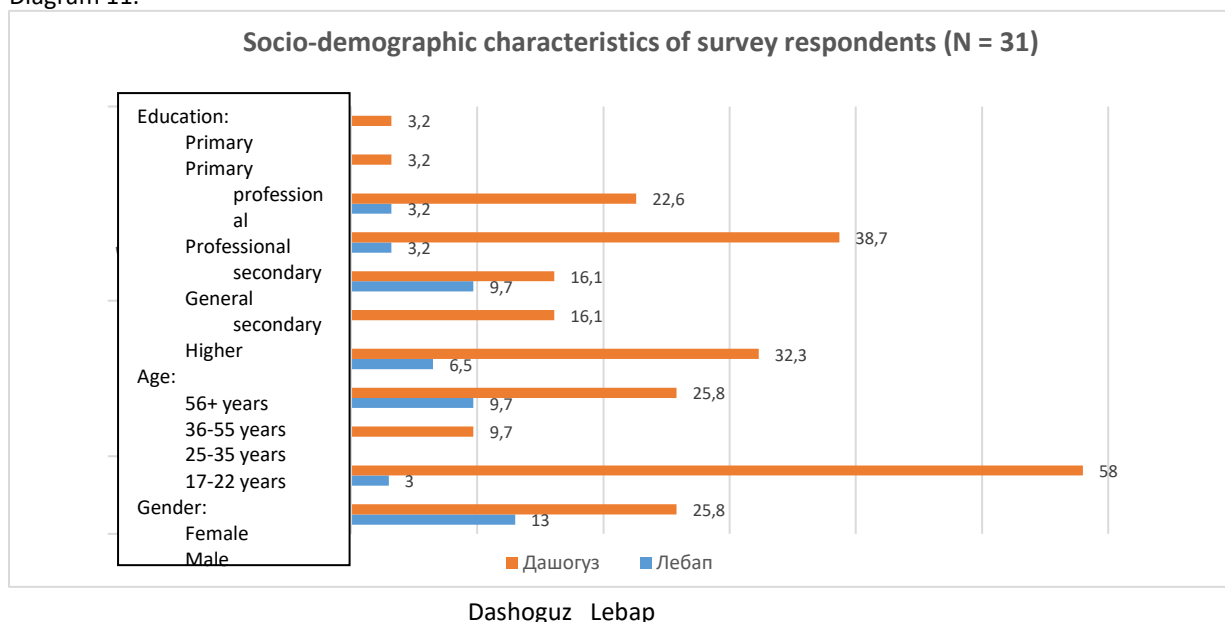
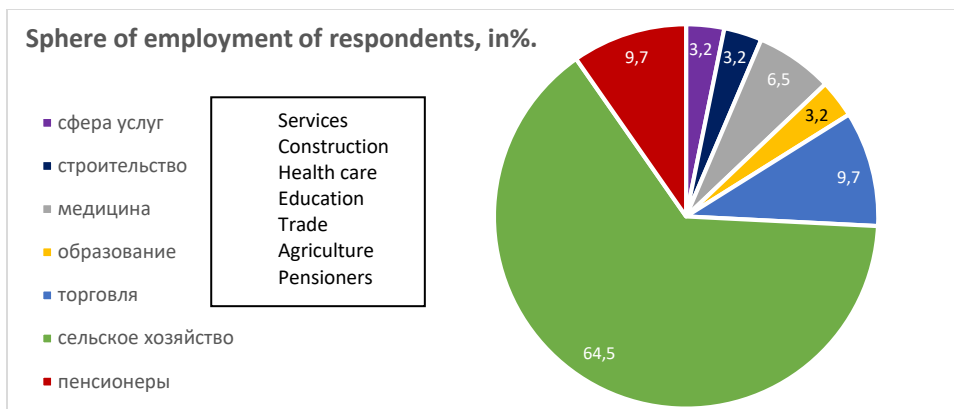


Diagram 12.

¹⁰⁷ Guidance to Advance Gender Equality in GEF Projects and Programs. GEF/C.54/Inf.05 June 1, 2018

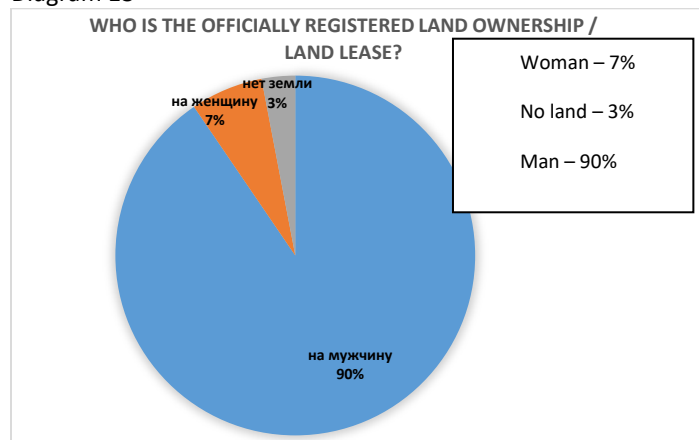
¹⁰⁸ Since a broader survey was conducted in the project, the results of which are also presented partially in this report, the definition of “consultation survey” will be used hereinafter to distinguish the two surveys.



- **Unequal access to and control over natural resources**

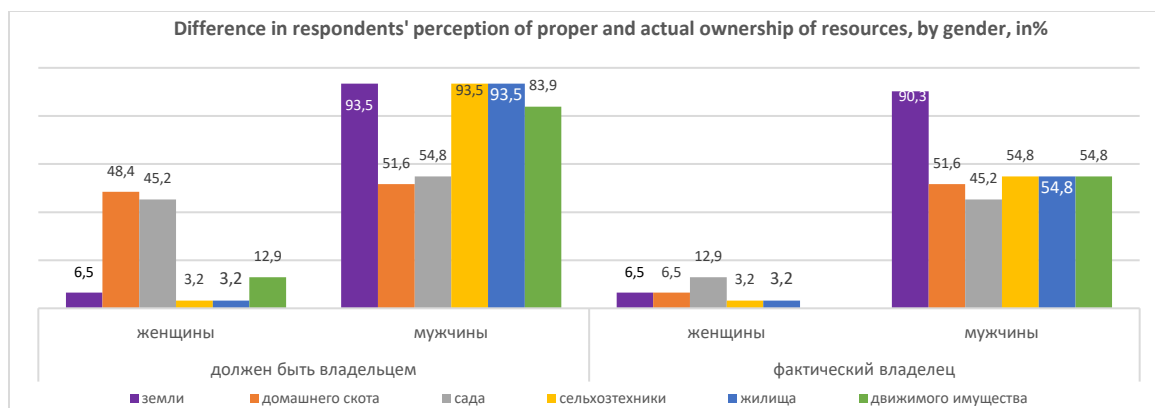
Traditionally, in all Central Asian republics, a man is recognized as the head of household by default and all property is usually recorded in his name. A woman can officially become the head of the household when there are no adult men in the family. The key property in agricultural production is land, but also property rights to other types of immovable and movable property - housing, machinery and equipment, livestock, etc. are important. The presence of immovable property can be a criterion for access to credit, and the fact that the Central Asian women are often not the official owners of property, according to numerous studies, is the main barrier to obtaining credit products. According to the survey results, in the overwhelming majority of cases, the property is registered in the name of a man - husband or son. Women act as owners or tenants of land plots only in 7% of cases.

Diagram 13



Despite the fact that in discussions with local residents, complete equality of men and women is usually spoken out and even sometimes men complain that women are “too smart and independent,” but in the respondents' answers to the questionnaire, gender social norms were different for women and men. For example, in the course of the survey, it was revealed not only who was actually registered in ownership of certain types of property, but also the attitudes of the respondents about who, in accordance with social and cultural norms, should be the owner of this or that property. (see Diagram 14). As can be seen from Diagram 14, predominantly in the normative view, all types of property should be the property of men - land, housing, agricultural machinery and cars. The reality differed from the normality only in that, in fact, the respondents did not always have property that could be registered as the property of a man. For a woman in the category of due, almost half of the respondents allowed her to own livestock (for the most part, it was about chickens, sheep and goats), as well as a garden in which women work hard. It is noteworthy that home gardens in reality represent a significant source of food security and even income-generating activities of households.

Diagram 14.



A survey conducted within the framework of the project among government officials, nature users, representatives of the public (academies, non-governmental organizations, media and youth)¹⁰⁹ provided data from these groups of stakeholders on the attitude towards the experience of men and women in environmental management, the importance of ensuring women's access to natural resources.

Table of answers to the question: "Based on your experience, how different are the roles of women and men in land and water management?"

Lebap and Dashoguz public		Natural users of Lebap and Dashoguz	
Men	Women	Men	Women
- Women are not interested in this, because agriculture is too difficult, with problems of water scarcity and harsh continental climate	Women are very interested in equal participation, but their roles are radically different.	Women and girls are on the same level with men	There is no difference between men and women
- Women play a key role in preserving traditional knowledge in natural resource management and inspiring us to act	The issue is related to equal educational opportunities and, therefore, to the professional competencies of women	Men usually play a dominant role in decision making, while women play an important role in the household. There is a little difference	Women and men work alike in the agricultural sector, and land and water resources are used on a regular basis. Both sexes must be at the same level.
- Typically, men are involved in land and water management, while women play secondary roles	More men than women regulate natural resources	Women tenants are more likely (than men) to actively participate in the labor force during the growing season	It is also important to note that in agriculture, machinery is run by women.
Due to the established traditions, the role of women in the management of natural and water resources is determined only by daily use, that is, at the lowest level, they cannot rise higher. The vast majority of men play more important role in natural	The responsibility is the same, as women must use water rationally for the household, and men must do the same for irrigating crops	Land and water resources are important and must be managed by both men and women at the same level	Water and land management can be used to establish a level playing field between the sexes

¹⁰⁹ See Survey Results analysis, 151 respondents were sampled in three survey categories.

resource management than women			
Although women play an invaluable role in certain stages of our work, such as harvesting, for example, cotton, weighing or feeding during the cotton or wheat harvest, the administrative part and all official duties are carried out by men	Women possess high potential for sustainable development, but the difference is noticeable, especially in vulnerable regions	Women, like men, work in all sectors of the economy. Men and women should jointly improve their knowledge of land and water management, agriculture and horticulture	Women are at a lower level
Unfortunately, the irrigation period is very difficult physically, and sometimes in dire conditions one has to stay in the field for weeks	Gender differences do not play a critical role in land and water management as men and women do equal work		

As can be seen from the Table, despite the wide range of opinions and the prevailing perception that men and women are equal in access to resources and control in environmental management processes, a number of important gender challenges can be noted:

- 1) The perceptions of men and women regarding the role of women in resource management and, in general, in environmental management differ significantly: men are more likely to consider women as secondary workers-helpers, explaining this either by the lack of interest of women, or by their “natural physical” weakness, or by “engrained norms” (to be guardians of traditional knowledge, even inspiring men for rational and sustainable management of natural resources).
- 2) Women are more likely to express opinions about the equality of men and women, arguing that in fact women occupy key positions in agricultural production and other areas of environmental management and that women actually work on an equal footing in agriculture. However, consultations with local residents showed that the number of women - specialists involved in water resources management or foremen in daikhan associations and other qualified positions is extremely small. That is, in this situation, the recognition of de facto equality is rather a part of the rhetorical strategy of the population.
- 3) It is noteworthy that when it comes to scientific support for sustainable development, gender will not matter, while practical work on environmental management is associated with high costs for women. It should be noted here that according to national statistics, the share of women employed in science, in such areas as agricultural development, biodiversity and sustainable development of regions, is very small.
- 4) The notion that harsh working conditions are naturally intended for men (here the gender stereotype about “a man is a warrior” is at the core), that it is important to protect women from such working conditions. Although from the point of view of gender approaches, it is very important to improve working conditions both for women (through mechanization and other ways) and for men, so that anyone can choose any job.

- **Unbalanced participation in decision-making in environmental planning and management at all levels**

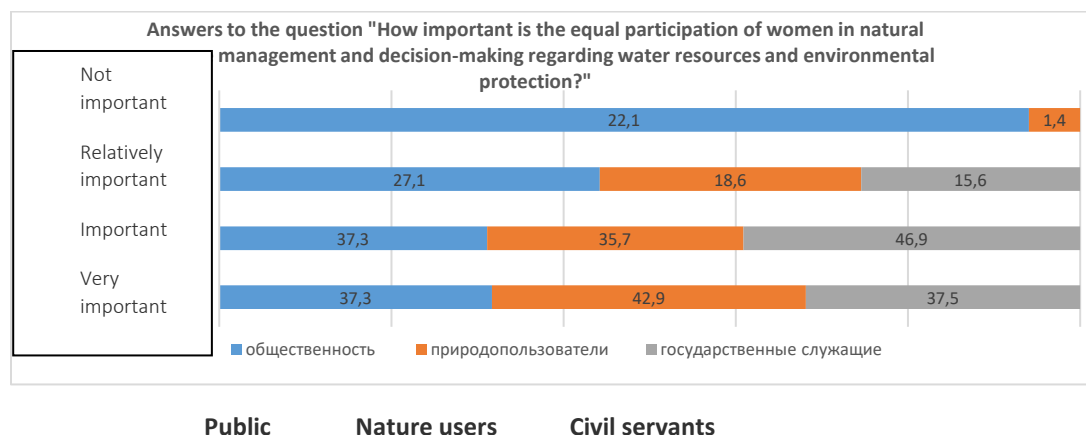
As mentioned in the section on analysis of legislation, the country's gender policy provides for equality of citizens, regardless of gender. Turkmenistan has good indicators in women's political representation: despite the absence of quotas for the advancement of women in politics, the real opportunities for women's participation in the country's political life are confirmed by 26.4% of the Mejlis deputies¹¹⁰, the leadership of women in it (the Chairman of the Mejlis, as well as the vice-chairman and one of the 8 committees are women), 16.7% in the bodies of elective power

¹¹⁰ Data for 2013, in the 5th convocation of deputies

in the velayats, 20.21% in etraps, 18.7% in gengeshes at the village level¹¹¹. To what extent does this representation of women affect their participation in decision-making in environmental planning and management at all levels?

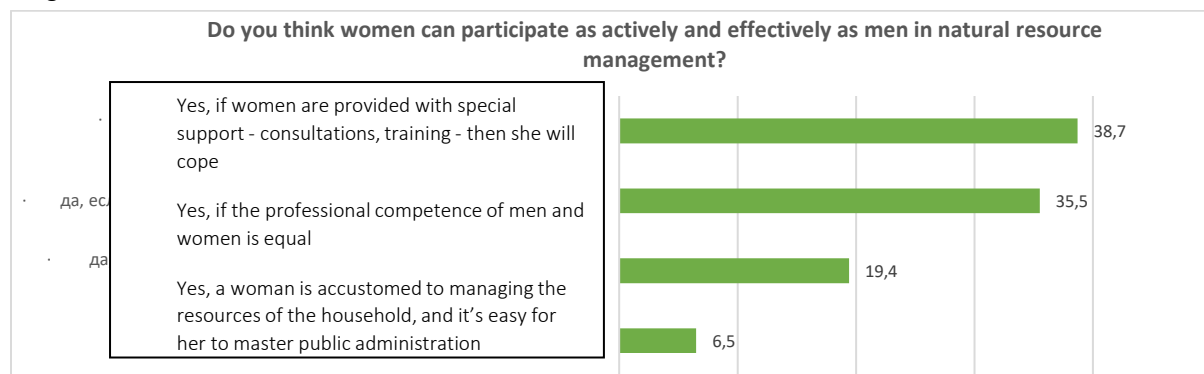
A survey of government officials, community groups and nature users in Lebap and Dashoguz velayats allows us to see the perception of the importance of involving women in decision-making processes related to environmental management and natural resource management at all levels.

Diagram 15.



The survey data showed that civil servants in pilot velayats/provinces have a higher gender sensitivity (or rather use a politically correct discourse on gender equality) - among them there was not a single respondent who would recognize the issue of women's participation as unimportant. Although, at the same time, almost all respondents in this category do not see differences in the use of natural resources between men and women, and they would least of all want to receive information and knowledge on gender issues.

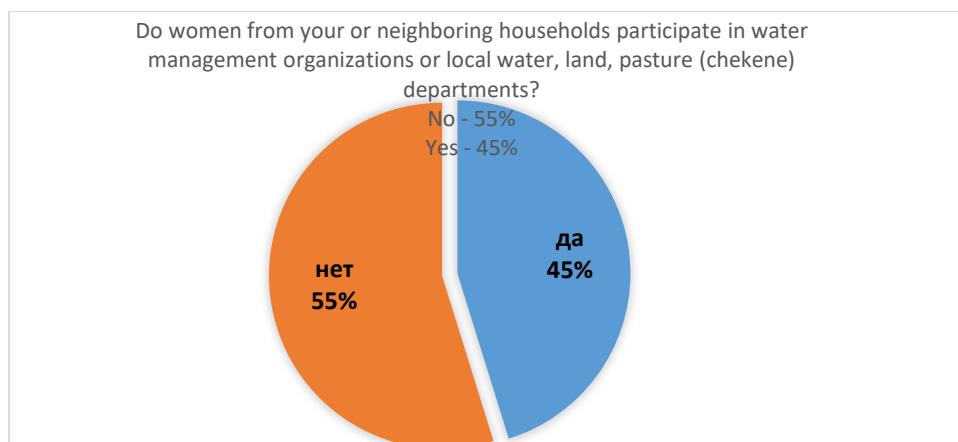
Diagram 16.



The situation is different in real practices. A consultation survey as part of the gender analysis of conservation and sustainable management of natural resources provided data describing the practices of the respondents:

Diagram 17.

¹¹¹ Quoted from L. Toylyeva. Turkmenistan and gender approach



It is important to note that only one respondent argued for his negative answer, noting that "this is a man's business." While most of the respondents who answered in the affirmative way also named specific women from the community who have experience in managing natural resources: these are women foremen, women working as irrigation irrigators in daikhan associations, and specialists from gengeshtlik.

Consultations held with the representatives of the gengeshtes of Lebab and Dashoguz velayats, farmers and members of farmers' associations showed that the issue of participation is acute not only for women: at the local level, the population is still almost not involved in management processes even in cases of problematic environmental management and possible disputes and disagreements on this ground. For example, daikhans and farmers turned out to be uninformed about the presence of non-governmental organizations that work on water management issues, as well as themselves being not actively involved in unions and associations of water users¹¹².

At the household level, women's participation in decision-making on environmental management and, in particular, agricultural production seems to be more significant. So, the respondents of the consultation survey answering the questions: 1. Who decided what to grow on your land / what types of animals to breed (this spring)? 2. Who made the decision - what share of the grown crop / livestock offspring / sell, and what share to use for the family's personal consumption ?, the overwhelming majority said that such decisions are made jointly with household members, but above all, spouses jointly.

Thus, it can be stated that, on the one hand, in theory most of the society supports and welcomes the idea of women's participation in the management of natural resources, on the other hand, in practice, only a few women are involved in decision-making processes related to environmental management. Almost all of these experiments take place at the lowest level, and while society has no idea of how specific needs and / or opportunities women present in this area, women participating in the local environmental management process remain "invisible" to society.

- **Uneven access to social and economic goods and services**

Uneven participation in socio-economic development occurs in every country. Typical signs of such unevenness can be dozens of indicators - from the coverage of school-age children with education in mass schools, indices of the spread of accessible Internet or the number of hospital beds in local hospitals. The study of national statistics allows us to make a number of preliminary conclusions about the socio-economic situation for rural residents of the pilot territories. For example, we can say that at least one fifth in Lebab and a quarter of the population in Dashoguz velayats are recipients of state benefits paid to vulnerable categories of the population (see Diagram 18) The diagram shows that in some regions, such as Balkan velayat, beneficiaries are 2-2.5 times less than in the pilot territories.

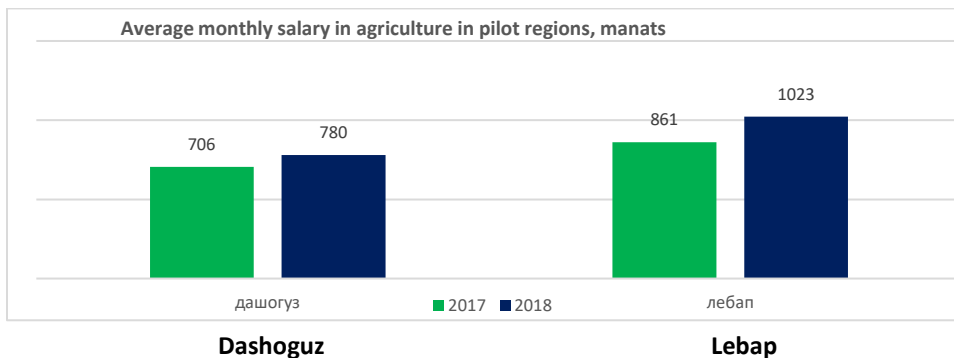
Diagram 18.

¹¹² The reports of the project specialists tell in detail about the problems of participation of the population and about the poorly organized work in the gengeshtes to involve population in solving issues of water use, joint use of pastures, etc. Section A .



Another characteristic of the level of well-being of rural residents of Lebap and Dashoguz is the average monthly wage in agriculture. As was noted in the section on the socio-economic context of gender analysis, average monthly wages in agriculture are significantly lower than wages in other sectors of the economy. In turn, the average monthly wage of agricultural workers in a number of regions is lower than the sectoral wage in the country. For example, in Dashoguz in 2017, the average monthly wage in agriculture was 80% of the indicators in the country, and in 2018 it was 75% of the average monthly wage in agriculture in Turkmenistan. Given that women are mostly concentrated at the level of lower field workers, their wages may be even lower.

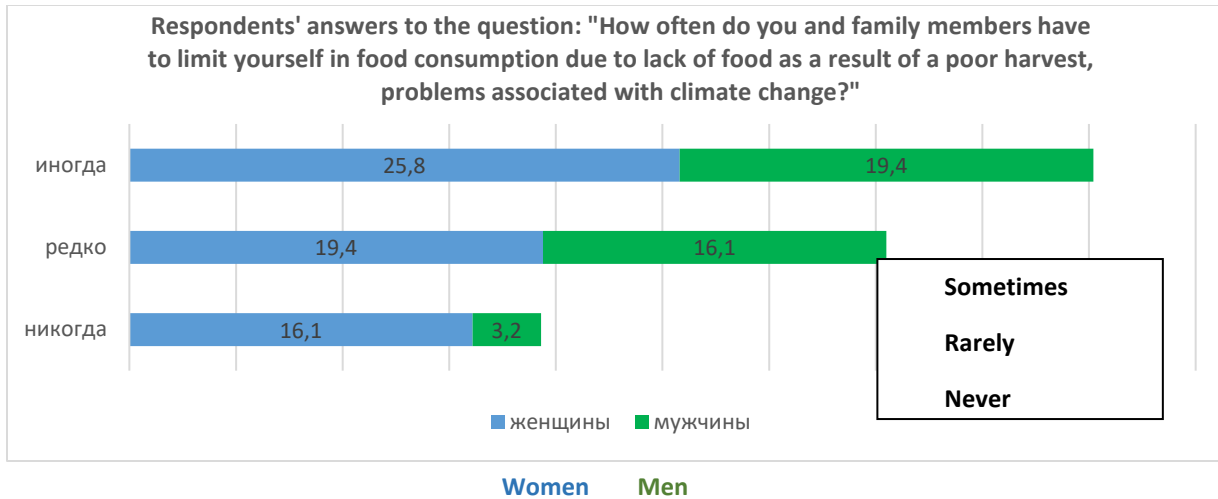
Diagram 19¹¹³.



Low agricultural wages can jeopardize local food security. As part of the consultation survey, it was found that a fairly significant proportion of respondents experienced sometimes (from 3 to 10 times a month) or rarely (1-2 times a month) lack of food and the need to limit their own consumption.

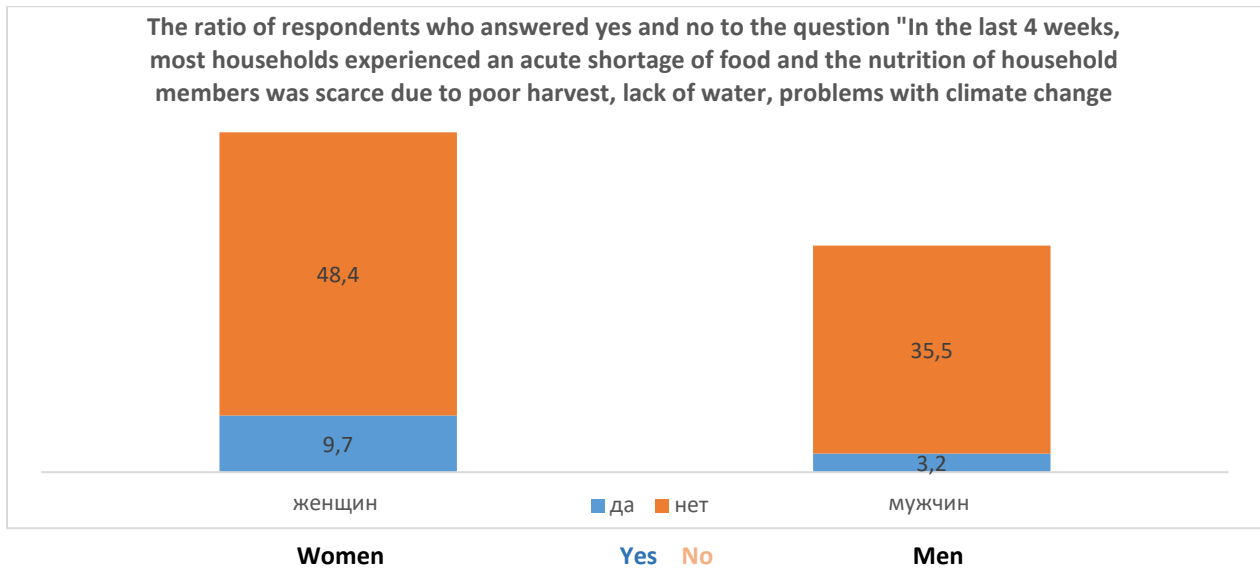
Diagram 20

¹¹³ Statistical Yearbook of Turkmenistan 2018. State Committee of Turkmenistan on Statistics. Ashgabat, 2019, p. 312



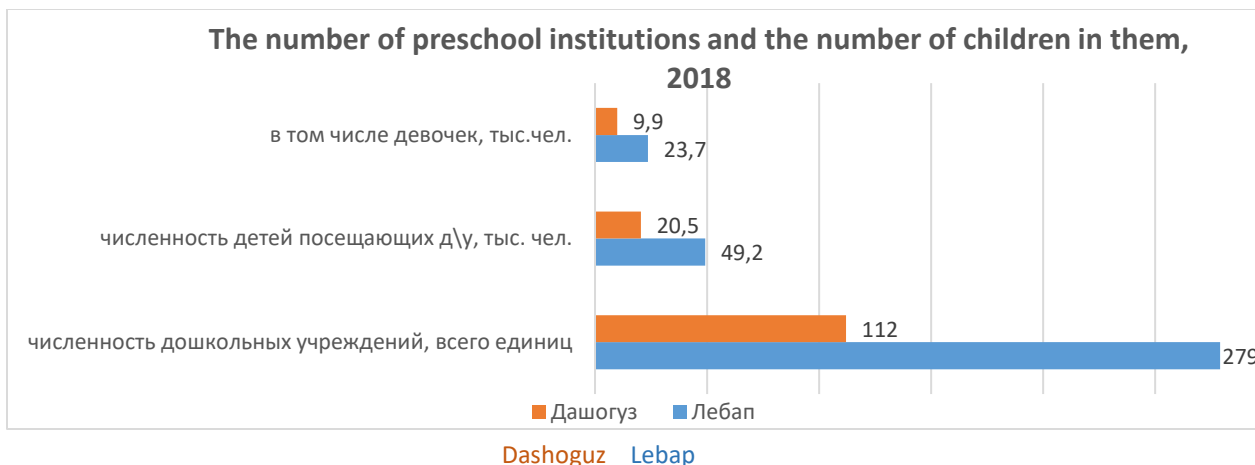
A small part of the respondents noted that in the near future - in the last 4 weeks, food for their households was scarce, food was limited.

Diagram 21



The access of children to preschool education in the pilot regions indicates that girls make up 48% of those attending preschool institutions in both velayats.

See Diagram 22

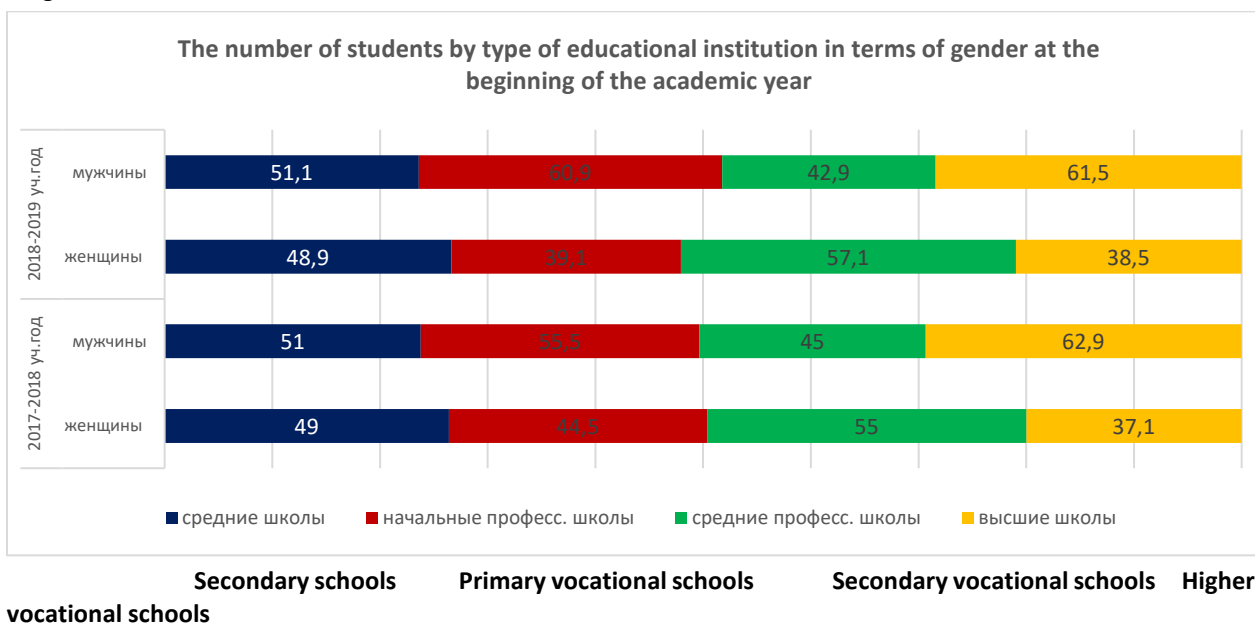


- Including girls, thousand persons
- Number of children attending preschool institutions, thousand people
- Number of preschool institutions, total units

However, it is important to note that the population in Dashoguz is 38.3 thousand more people than in Lebap velayat, and the number of preschool institutions is 2.5 times less, and, accordingly, more than half of children have access to early socialization and development in children preschool institutions. This aspect can also have a wide implicative effect: young mothers cannot be active in the labor market if a system of support is not provided for the care, attention and upbringing of small children.

Unfortunately, due to the lack of data on the educational status of men and women in the pilot regions, it is not possible to analyze the rationality of the use of labor resources and the equality of opportunities for women and men in the development of their professional career. BUT nationwide data on the representation of women and men in educational institutions at different levels (see Diagram 21) may indicate the existence of gender disparities, which undoubtedly affect the chances of women and men workers in local labor markets.

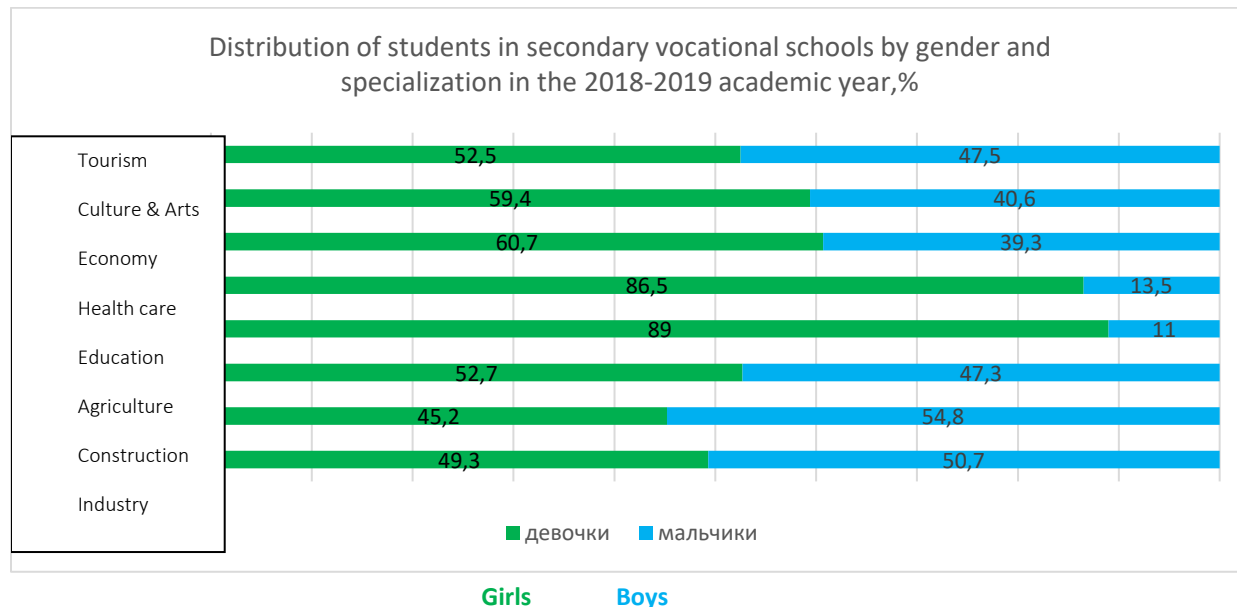
Diagram 23



As can be seen in the diagram, women dominate at the level of secondary vocational education, while men - at the level of primary vocational and higher vocational education.

In the system of secondary vocational education, girls and women prevail in all sectoral specializations (including agriculture), with the exception of industry and construction. Thus, there is a good opportunity for women engaged in agricultural production to obtain industry-specific competencies and take up relevant jobs.

Diagram 24¹¹⁴.



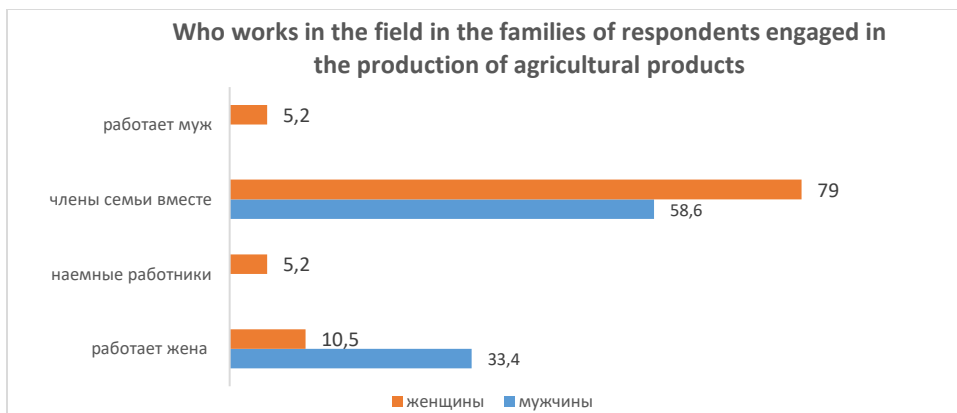
At the same time, it is important to note that, based on consultations with rural residents, women rarely occupy positions of qualified agricultural workers: in Lebap velayat there is a small number of women - foremen, there are even a few women - specialists in water resources management, but in Dashoguz velayat there are almost no such "professionally advanced" women. Despite the fact that women are represented in large numbers at the level of downstream field workers, however, the lack of statistics on the employment of women who have received specialized education in the pilot velayats does not allow us to make a more accurate analysis of the gender gap in the demand for qualified personnel in agriculture.

A significant proportion of women from the consultative survey indicated that they are not engaged in agricultural production, as well as a portion of men. However, in discussions with local residents, it was found that, in fact, all villagers at least do work in the garden or vegetable garden on their personal plot. However, people who do not officially work at a particular enterprise tend to "not see" their work as productive, even if the products grown "invisibly" bring real cash income to the household if they are sold. It is also important to note that it is common for households and respondents representing agricultural enterprises (for example, farmers' associations) to develop mixed forms of agricultural production: not only crop production, but also the development of orchards, and often additionally animal husbandry. There are examples of additional development of the greenhouse and apiary, albeit in a single copy. Rural producers are very interested in developing alternative sources of income generating activities. All these activities are often perceived by the villagers themselves and their communities as part of reproductive activity.

The fact that the respondents sometimes do not recognize their contribution to agricultural production is also confirmed by the answers to another question in the questionnaire, which specified which family member works on the leased land plot.

Diagram 25.

¹¹⁴ Statistical Yearbook of Turkmenistan 2018. State Committee of Turkmenistan on Statistics. Ashgabat, 2019, p. 205



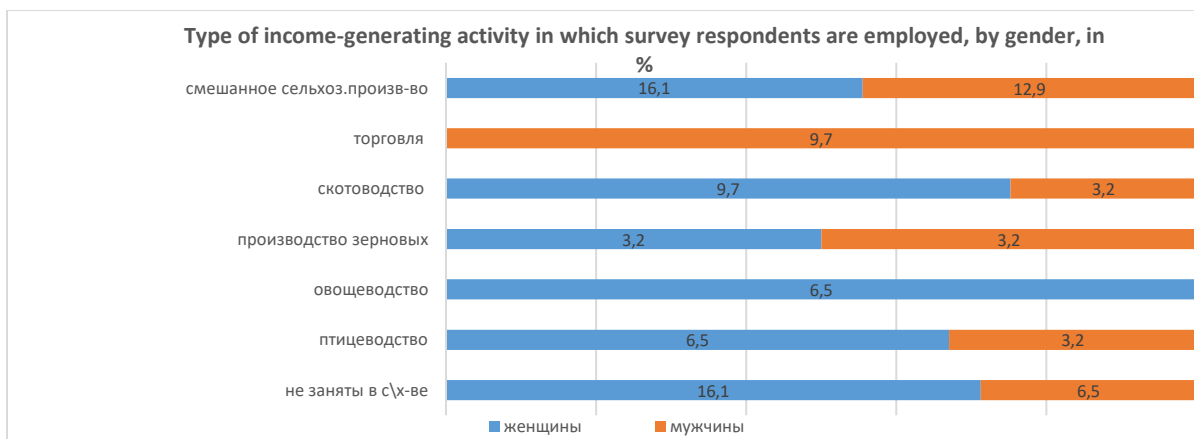
Women Men

- Husband
- Family members altogether
- Wage worker
- Wife

As can be seen from the diagram, they work mainly with families, involving not only women and men, but also children (daughters and daughters-in-law are often mentioned). Only in isolated instances did the respondents indicate that they had to hire workers; the category “the wife works in the field” was encountered quite often, the category of the answer “the husband works” was much less common.

Two spheres of work are represented by gender segregation (see Diagram 16): vegetable growing and trade. As the discussions with representatives of the Lebap and Dashoguz farmers' associations have shown, it is often true that men are often engaged in the sale of agricultural products and the reason that women are not involved in trade were stated as follows: “men drive a car, they are more “suited” to unloading / loading work products on the market, and often there is no room for a woman in a car - they load the whole car with products”. Vegetable growing on the backyard is seen as a “woman's” work, the routine of weeding, watering and harvesting for the community is an area of interest for women.

Diagram 26.



Women Men

- Mixed agricultural production
- Trade
- Cattle-breeding
- Crop production
- Vegetable growing

- Poultry farming
- Not engaged in agriculture

A survey on traditional types of employment for rural men and women yielded the following lists of “female” and “male” jobs:

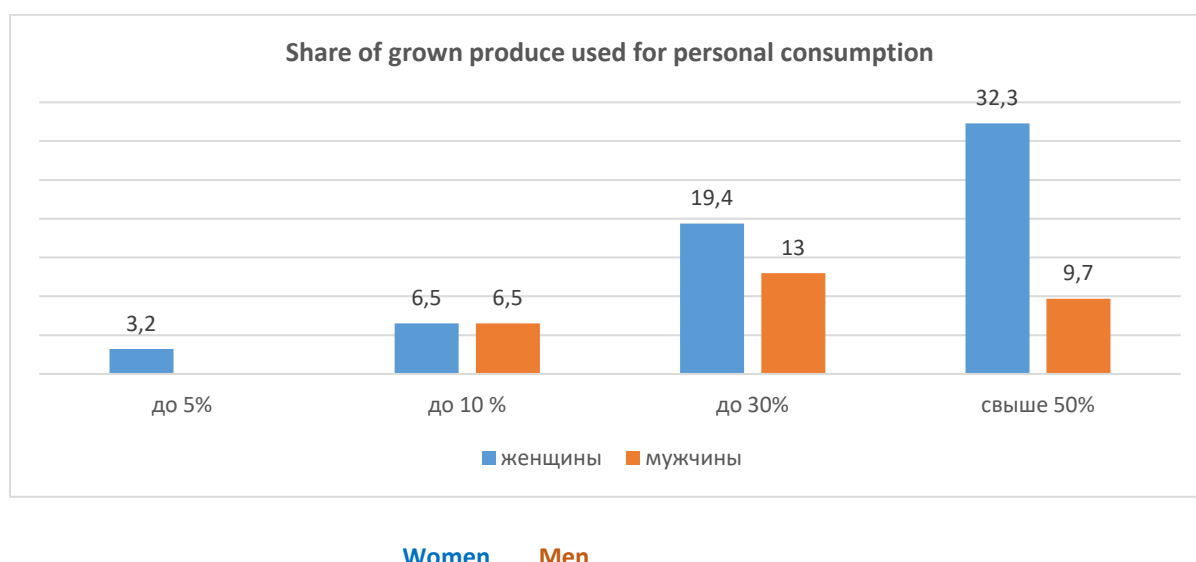
Predominantly female area of responsibility	Predominantly male area of responsibility	Mostly joint activities
Weeding (61.3% female, 35.5% jointly)	Land plowing (77% is done by men, 19% - together with other family members)	Sowing (49% jointly, 30% men, 21% women)
Routine livestock care: cleaning (52% women, 30% joint, 18% men)	Fertilization (49% men, 30% joint, 21% women)	Harvesting (49% jointly, 42% women, 6.5% men)
	Watering (42% men, 35.5% together, 19.5% women)	Placing products for storage (62% together, 29% women, 9% men)
	Decides on the sale of the crop (58% men, 26% jointly, 13% women)	Routine cattle care: feeding (52% jointly, 30% female, 18% male)
	Looks for sales markets, concludes contracts for the sale of products / supplies (49% men, 33% jointly, 16% women)	Prepares feed for livestock / poultry / fish (68% jointly, 16% women, 13% men)
	Provides selection work (69% men, 16% jointly, 10% women)	
	Invites agronomists and other specialists to ensure high yields and product quality (68% men, 30% jointly)	
	Organizes the process of insemination of livestock and / spawning fish / laying eggs in birds (74.2% men, 16% jointly, 8% women)	
	Organizes the process of lambing / caring for hatched chicks / baby fishes (54.8% male, 29% female, 12.9% jointly)	
	Decides to sell part of the livestock / fish / poultry (52% men, 42% jointly, 6% women)	
	Grazing livestock on distant pastures (90.3% men)	
	Finds a sales market, concludes contracts for the sale of livestock / poultry / fish and organizes supplies (68% men, 30% jointly)	

Examination of the table shows that all activities related to decision-making, resource management, communication with third parties that provide services to households fall under the male responsibility.

Labor-intensive and routine jobs are carried out mainly jointly by household members or by women. The list of female responsibilities is extremely short, although in many areas where respondents noted predominant male responsibility or joint activities, women were often cited as significant participants. That is, women are involved in all types of daily routine work, but they play a very insignificant role in making decisions on the sale of manufactured products, in determining sales markets.

The participation of women, along with men, not only in the production of agricultural products, but also in making decisions on marketing and determining the share for personal consumption is of great importance in terms of ensuring food security. As the consultative survey showed, female respondents reported, in contrast to male respondents, about a more significant share of the grown crop used for personal consumption. Perhaps the respondents to the survey were from poorer groups of the population, or it may be that some of the respondents (men or women) do not have accurate data on their household expenditures.

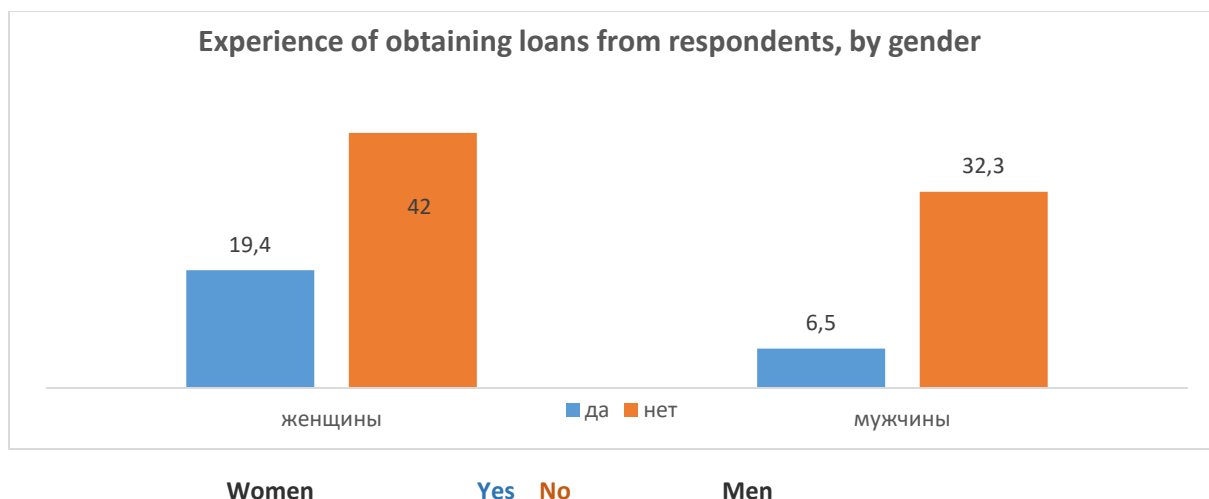
Diagram 27.



Limited access to financial resources appears to be an undeniable obstacle to the advancement of gender equality. In the Eurasia region, these limits are 26%, but there are no data for Turkmenistan. At the same time, access to financial products and services in Turkmenistan is still quite low, which is reflected in the data of the ESCAP multi-indicator cluster study¹¹⁵. The study provides information on access to financial services in Turkmenistan. In particular, it is indicated that in 2015, 37% of households had bank accounts, while residents from two quintiles of the population with the least financial resources (poor) had the least access to financial services.

As part of the consultation survey, the respondents answered about their experience of applying / receiving loans for the development of agricultural production. The data indicate that women are more active in obtaining loans than men. But it was women who more often said that they had no experience of going to banks. In the comments, some respondents indicated that they do not know how to apply for funds or are afraid whether they will be able to effectively use the borrowed funds and pay them back without losing what the household has today.

¹¹⁵ Inequality of Opportunity. Who Are Those Left Behind? ESCAP Policy Paper 2020 #6



In online consultations, participants from among the local farmers and members of farmers' associations spoke about a lack of awareness of concessional lending, that they do not know the procedures and they find it difficult. Rural producers are almost completely uninformed about financial services and products other than loans.

Conclusions:

The conducted Gender analysis of the factors of conservation and sustainable management of land resources and high-value ecosystems in the Aral Sea basin for multiple benefits leads to the following conclusions:

1. Unequal access to and control over natural resources

- Social norms and traditional values determine the practice of formalizing family ownership of a man - a husband or a son of the family. Ownership of movable or immovable property and land is not culturally appropriate and rarely occurs in practice, more often in cases that allow for exceptions to regulatory requirements: in cases of widows, divorced and unmarried women.
- In the public perception, the idea of the "natural" abilities of men to manage natural resources is normalized, while for women this area is not interesting. Agricultural women are perceived to be more passive than men.
- Women are more likely to express opinions about the equality of men and women, arguing that in fact women work on an equal footing in agriculture.
- Women are rarely represented at the level of specialists and lower-level managers and do not have equal control over natural resources, including water resources.

2. Unbalanced participation in decision-making in environmental planning and management at all levels

The women of Turkmenistan have political representation at the national level and are close to critical mass representation at the local level. However, in sectoral policies, women's representation is not yet perceived as an important element of governance, including both environmental planning and natural resource management.

Among civil servants, whose opinion was available for study, there is a rhetorical strategy to support gender equality: they recognize the importance of women's participation, but are not sensitive to gender differences in environmental management and do not see any particular value in obtaining gender education for themselves.

Despite the general "loyal" attitude of the survey respondents to gender equality issues, a large proportion of them, even including those whose mandates and competencies include human rights issues, are not inclined to see gender

issues in agricultural adaptation to climate change and in the participation of men and women in making decisions on environmental management.

At present, the issue is not only the limited participation of women in decision-making in this area, but also, in general, in expanding public participation in solving acute environmental issues, issues of nature use. Gender is part of the challenge to involve local people in natural resource management.

At the household level, women's participation in decision-making appears to be more equal, even despite traditional cultural norms that prescribe a secondary role for women. But at the symbolic level, the contribution of women to the socio-economic development of households and communities is not visible: women carry out those types of work that are limited in communication with other people outside the household; they publicly cannot act as those who dispose of the products produced, etc.

3. Uneven access to social and economic goods and services

The unevenness of regional development is reflected in a set of indirect indicators - from the number of recipients of state benefits to the coverage of children by preschool institutions. A number of indicators can show clear situations - like recipients of state benefits on the representation of underprovided and poor households; other indicators can also reflect additional, gender-significant results. For example, low coverage of young children in preschool institutions may also indicate the existence of an institutional barrier for young women - mothers in the labor market.

In terms of income, employment in agriculture is not very attractive - the average monthly salary in the sector is lower than in any other industry, and regional salaries in agriculture are even lower. Given that women are mostly concentrated at the level of lower field workers, their wages may be even lower.

Low incomes in agriculture do not provide food security for families. Climate change in this sense poses a particular risk for families of rural producers.

The strategies to ensure food security and improve well-being determine that rural producers from pilot regions more often resort to mixed production, combining gardening, crop production with animal husbandry, etc. Villagers often do not distinguish between reproductive and productive activities.

In all types of reproductive and productive activities of households, the labor of not only men and women, but also children is widely used. Particularly often mentioned is the contribution of daughters and daughters-in-law, who work in private plots in vegetable growing and gardening. Despite the fact that many types of economic activities of the household are carried out jointly by all members, all activities related to decision-making, resource management, communication with third parties that provide services to households are perceived to be male responsibility. At the same time, the contribution of women is not visible. Rural producers have limited access to financial resources, despite the existence of concessional lending programs for agricultural producers. It is not possible to judge the gender gap in access to credit based on the available data. Rural producers' awareness of financial services and products is low.

Gender Action Plan

The Gender Action Plan is developed based on a gender analysis of the conservation and sustainable management of land resources factors and high value ecosystems in the Aral Sea region for multiple benefits.

The purpose of this GPA is to promote the conservation and sustainable management of natural resources in the Aral Sea Basin by reducing gender gaps identified in natural resource use and access to resources and services, as well as participation in natural resource management. Addressing gender gaps and inequalities is necessary for women in the pilot regions of Turkmenistan to live in a safe environment and enjoy equal rights and opportunities with men and achieve commensurate results. To achieve this goal, the GPA proposes gender priorities in the Project activities and outputs.

The basic principles of gender mainstreaming in this plan are the following:

- A) Focusing on three dimensions of gender gaps, consistent with the definitions of the GEF Gender Strategy for implementation in all projects and programs of the Fund, namely:
- Unequal access to and control over natural resources
 - Unbalanced participation and involvement in decision making in environmental planning and management at all levels
 - Unequal access to socio-economic benefits and services ¹¹⁶.

B) The introduction of gender approaches in this GPA is carried out through planning measures aimed at ensuring the equitable participation of women at three levels: among the recipients of services and benefits, among the active performers of all adaptation measures (subjects) at all levels, and among persons at the level decision making.

The table below presents the provisions of the GPA for project components and outcomes/actions. In addition to the three project components, this GPA also proposes component 4: Gender mainstreaming in the project management cycle, which will provide the necessary preparatory work to make progress in gender-sensitive work across the three project components.

Component/Actions / Project Activity	Indicators	Target	Responsible entity	Timeline
Component 1: Land restoration and sustainable land and water management				
Include Gender among the training topics of national and local authorities and raise awareness of local / regional authorities and the State Committee for Water Resources, the Ministry of Agriculture and Environmental Protection, Academy of Sciences (information meetings), on the need of applying gender consideration in the land and water policies; deliver modules on gender equality policies in Turkmenistan, including review of commitments and gender indicators on SDG-5 and other sustainable development goals, as well as on the relationship between gender and climate change. (Act 1.1.1)	<ul style="list-style-type: none"> - Modules on gender sensitive policy making and distinct module on “LDN and Gender” delivered within the framework of capacity building activities. - Modules developed are included in capacity building and stakeholder awareness programs as gender sessions. - Measurement of awareness of gender policies and procedures after training increased 	The level of knowledge of stakeholders on gender policies and procedures (indicators and measurements) increased by 20%	Gender expert Project manager Project specialists (manager, expert in knowledge management and monitoring and evaluation)	Year 1-2
Ensure the participation of middle and higher-level women professionals in training activities to build the capacity of national and local authorities and raise awareness of local/regional authorities and the State Committee for Water Resources, the Ministry of Agriculture and Environmental Protection, the Academy of Sciences (Act. 1.1.1)	By the order of the Ministry of Agriculture and Environmental Protection and other state partners, women - specialists from state and municipal bodies actively participates into project capacity building sessions.	At least 30% of women in the composition of the staff appointed to participate in training activities of the project by the order of the Ministry of Agriculture and Environmental Protection and other partners	Gender expert Project manager Project specialists (manager, expert in knowledge management and monitoring and evaluation)	Year 1-2

¹¹⁶ The aspects of inequality in access to socio-economic benefits and services identified in the framework of the gender analysis are addressed in this Gender Action Plan through a set of measures to increase the employment of the local population, including women, and develop alternative sources of income; through the opportunity to participate in grant programs and implement their business and social projects on their basis.

<p>Ensure the involvement and participation of women professionals in: Intersectoral Commission on Environmental Protection ILUPS – women participation in the integrated land use planning LDN cross-sectoral expert groups and integrated land use planning Local District Committees (Act. 1.1.2)</p>	<p>Number of professional women in Intersectoral Commission</p> <p>Number of professional women in intersectoral groups</p> <p>Number of women - leaders in intersectoral groups</p>	<p>At least 10% - women specialists in the Intersectoral Commission</p> <p>At least 10% of women - specialists in the intersectoral groups</p> <p>30 of professional women in the Local District Committees</p>	<p>Gender expert Project manager</p>	<p>Throughout the relevant project activity implementation</p>
<p>Ensure the involvement of women professionals, as well as local farmers and entrepreneurs in events to discuss the National Action Plan to Combat Desertification, LDN targets and integrated land use planning on the ground (Act. 1.1.1/Act. 1.1.4/ 1.1.5)</p>	<p>Proportion of women professionals, farmers and entrepreneurs who participated in the public discussions of the Action Plan</p> <p>Number of suggestions made by female participants during public comments</p> <p>Number of gender issues raised during public consultations and included in the National Action Plan</p>	<p>At least 50% of women participating in public discussions of the Action Plan</p> <p>5 proposals from women - specialists, farmers, entrepreneurs</p> <p>2 gender issues voiced and discussed during consultations and included in the National Action Plan</p>	<p>Gender expert Project manager</p>	<p>Year 1</p>
<p>Promote the involvement of women from Dashoguz velayat in organizing a nursery and introducing sustainable methods of saxaul cultivation, followed by participation in demonstration activities under the project (Act. 1.2.2)</p>	<p>Number of women involved in the implementation of sustainable saxaul farming practices</p> <p>Number of women selected for demonstration activities</p> <p>Number of successful initiatives by women who were able to use the acquired skills as a business model</p>	<p>60% of the project performers involved in organizing the nursery and introducing sustainable methods of growing saxaul are women</p> <p>50% of proponents of successful practices are women</p>	<p>Project specialists - manager, LDN specialist, Gender expert</p>	<p>Year1-2</p>
<p>Engage interested (and trained) local women and youth in</p>	<p>The number of women and youth among the public</p>	<p>At least 30% of women and 30% of</p>	<p>Project specialists and local authorities</p>	<p>Year 3-5</p>

monitoring forest regeneration in pilot areas (Act. 1.2.2)	monitors of forest regeneration Number of events organized for local population by women monitors to discuss monitoring results	youth are public monitors At least 1 event per year based on monitoring results is organized in each pilot community		
All planned assessments and analyzes, including: <ul style="list-style-type: none"> assessment of potential impacts of different land use options, assessment of trends and intensity of land degradation within each type of land use at the district level, assessing land degradation and establishing a neutral action mechanism Assessments should include gender-differentiated needs and norms that shape the land use practices of men and women (e.g., access to natural resources, access to technology and information, etc.) (cross-cutting across activities)	Number of gender-differentiated indicators in each type of assessment Inclusion of indicators of the needs and requirements of men and women - users of natural resources and indicators of the difference in environmental management practices	100% of indicators related to the life of people (farmers, businessmen, members of associations, groups, representatives of state and municipal structures, etc.) should include a gender aspect	Project specialists	Throughout the project duration
Ensure the involvement of women and youth in pilot regions in the work of: <ul style="list-style-type: none"> farmer field schools, seminars on irrigation and sustainable crop production (Act. 1.3.2) Training seminars on SLM (Act 1.4.1) 	The number of women and youth studying: <ul style="list-style-type: none"> in farmer field schools, at seminars on irrigation and sustainable crop production at demonstrations and trainings on SLM 	At least 30% of students in farmer schools and seminars on irrigation and SLM are women and at least 30% are youth	Project specialists, local authorities and the Agrarian Academy	Year 2-3
Mainstreaming of gender differentiated indicators in inventory and assessment of pasture use patterns, as well as pasture management plan (Act 1.4.1)	% of men and women - owners of long-term leases for pasture land	Pasture inventories and assessments includes gender differentiated data	Project specialists	Year 1-2
Establish the participation of women and youth as a criterion for the selection of demonstration farms and sites that practice sustainable natural resource management (Act 2.3.2)	The criterion for the participation of women and youth is spelled out in the Technical Description	At least 30% of women farmers % of youth are among beneficiaries of	Project specialists and local authorities - partners	Year 1-3

	of the Competition Conditions	any given winning grant application		
Include women specialists (from representatives of state and municipal bodies, NGO members, local community activists, etc.) in the grant commission to participate in the decision-making on the selection of applications from farmers and entrepreneurs (Act 2.3.2)	The number of women - specialists among the members of the grant commission	At least 30% of women - specialists in the grant commission for the project	Project specialists and national and local authorities - project partners	Year 2-4
Promote more active participation of women farmers in pilot regions in the activities of local associations and water user groups as: members of associations and groups at local and national levels decision-makers in associations and groups at the local and national levels (across components)	Number of women farmers among members of Water User Groups and associations at the local and national level	At least 30% of women are members of water user groups and associations at local and national level	Project specialists, local authorities, specialists from the Ministry of Agriculture and Environmental Protection and the State Committee for Water Resources of Turkmenistan	Year 2
Include gender consideration in the communication and knowledge management plans, project measures to promote women's leadership and women's empowerment through organizing seminars on leadership and empowerment for different groups of women - beneficiaries of the project	Modules and programs of seminars on women's leadership and empowerment have been developed	At least 2 modules - on women's leadership and on women's empowerment	Project specialists - manager, communication and knowledge management expert, gender expert of the project	At the initial stage (inception)
Component 2: Securing Biodiversity-Critical Ecosystems and Ecosystem Services				
Ensure equal opportunities for women and men from pilot communities to benefit from access to: Promote equal participation of men, women in the capacity building activities (Act. 2.1.3)	Increased women leadership in protected areas management	At least 30% women participants in the PAs trainings	Project specialists and local authorities	Year 1-3
Ensure equal opportunities for women and men from pilot communities to benefit from access to: Technical assistance in the preparation of applications for the grant competition (Act. 2.3.2)	Number of women who received technical assistance in preparing a proposal	30% of women - recipients of application development assistance	Project specialists and local authorities	Year 2-3
Ensure equal opportunities for women and men from pilot communities to benefit from access to: Ensure meaningful women participation in the stakeholders	Number of women in local communities participating actively into consultations	At least 30% women participates in local community meetings	Project manager Gender expert Project specialists Local authorities	Year 2-3

consultation process during the preparatory and planning work for new PAs designations, community outreach work aiming at improved PAs zoning.				
<p>The Grievance and Conflict Mechanism is gender sensitive:</p> <ul style="list-style-type: none"> • Women beneficiaries of the project are fully informed about the existence of the mechanism and procedures for confidential treatment • The Grievance and Conflict Commission consists of women who are skilled in handling grievances and conflicts 	<p>Number of women informed about the mechanism</p> <p>Proportion of women - members of the commission</p>	<p>The channels for informing women are defined by a basic gender assessment</p> <p>30% women specialists in the Commission</p>	<p>Project manager UNDP CO</p>	<p>During the project</p>
Component 3: Cooperation and support for the restoration of the Aral Sea basin				
<p>Provide equal opportunities for women farmers, members of water user groups and entrepreneurs to participate in the events of the Champions network in sustainable land management, as:</p> <ul style="list-style-type: none"> • role models of "champions" • participants of information meetings to gain knowledge and exchange experience with champions (Act 3.1.2) 	<p>The number of women who have received the status of champions, and act as presenters of their experience (role model)</p> <p>Number of media coverage of the experience of women champions</p> <p>The number of women from local communities in pilot regions, gaining knowledge and adopting the experience of champions</p>	<p>At least 30% of the network of champions are women</p> <p>At least 50% of women champions get the opportunity to present their experience</p> <p>100% of female champion role models must be represented in the media</p>	<p>Project manager Gender expert Project specialists</p>	<p>Year 3-5</p>
<p>Provide equal opportunities for women (from among specialists of national and local authorities, farmers, members of water users groups, and other groups of pilot communities) to participate in activities to raise awareness and level of competence in the field of sustainable management of land and water resources, ecosystem services</p> <ul style="list-style-type: none"> • As specialists - teachers / trainers • As participants, recipients of knowledge and skills 	<p>Number of activities to raise awareness and level of competence in sustainable land and water management, ecosystem services</p> <p>Number of women participating in training events</p> <p>Number of women - professionals involved as teachers - trainers in training activities</p>	<p>20 events</p> <p>At least 30% women participants</p> <p>10% of women - trainers</p>	<p>Project manager Gender expert Project specialists</p>	<p>Year 2-5</p>

<p>Communication and Knowledge Management Plans should include:</p> <ul style="list-style-type: none"> • Presentation by women members of the Champions of Sustainable Land Management Network to promote their successful experiences • Gender sensitive radio and TV talks shows with a segment for women farmers 	<p>Number of radio talk shows addressing identified gender gaps and showcasing project experiences and good practices</p>	<p>Total radio talk shows - 20</p> <p>At least 10 radio talk show addresses, among other topics, the:</p> <p>(i) Unequal access to and control over natural resources</p> <p>(ii) Unbalanced participation and involvement in decision making in environmental planning and management at all levels</p> <p>(iii) Unequal access to socio-economic benefits and services ¹¹⁷.</p> <p>At least one talk show program on women's contribution to sustainable natural resource management</p>	<p>Project manager Gender expert Project specialists</p>	<p>Starting from the 3rd year of implementation</p>
<p>Information and communication products of the project should represent women farmers vision and voice, and experience in sustainable management of natural resources (across activities)</p>	<p>Number of media and other information products by type (print, radio, etc.) with gender sensitive thematic information</p> <p>Number of information products on the contribution of women to sustainable development and / or the impact of gender on adaptation to climate change</p> <p>Share of information products promoting the experience of women participating in project events</p>	<p>At least 20 media and information materials and assessments with gender sensitive information</p> <p>At least 30% of all information products are about the contribution of women and / or the influence of gender on adaptation to CC</p> <p>At least 30% of information products promoting women's experience</p>	<p>Project manager Gender expert Project specialists</p>	<p>During the project duration</p>

¹¹⁷ The aspects of inequality in access to socio-economic benefits and services identified in the framework of the gender analysis are addressed in this Gender Action Plan through a set of measures to increase the employment of the local population, including women, and develop alternative sources of income; through the opportunity to participate in grant programs and implement their business and social projects on their basis.

	<p>Share of info products where the main characters are women as champions of successful environmental management practices</p> <p>Share of best practices documented by the project</p>	<p>At least 30% of information products, where the main characters are successful women using natural resources in sustainable ways</p> <p>At least 30% of documented best practices and lessons learned from project implementation should represent the experience of women farmers, entrepreneurs in natural resource management processes in the context of climate change and progressive land degradation</p>		
4. Component of gender mainstreaming in project management				
<p>Develop gender-sensitive M&E tools for project activities, including:</p> <ul style="list-style-type: none"> • forms of registration of participation in training, information and other project activities, • criteria for evaluating bids for a grant program or a component for the selection of demonstration sites, • as well as criteria for evaluation and selection and procedures for documenting best practices or lessons learned from a gender perspective, etc. 	<p>- The form of participation in training or other project activities ¹¹⁸ contains indicators of the participation of women, youth, rural residents and serves as an effective tool for M&E for project coverage</p> <p>The gender-sensitive selection criteria for competition proposals for grants include the following:</p> <p>A) the proposal aims to address the vulnerabilities of women and children to climate change</p>	<p>Gender sensitive monitoring form developed and used e.g.</p> <p>(i) recording participation in training, (ii) recording information channels for men and women of project beneficiaries, (iii) recording recipients of grants and other project assistance, (iv) recording successful practices</p> <p>(v) Selection criteria and documentation</p>	<p>Gender expert M&E expert Project manager</p>	<p>Throughout the project</p>

¹¹⁸ Such a form should include pre-defined categories, in which participants must only tick the corresponding answer options by categories: gender, age, status of representation (local community / NGOs, state and or municipal structures, business, project employees and involved specialists, etc.), territory (city-village, region), etc.

	<p>B) the application is aimed at promoting the women's empowerment (economic empowerment of women)</p> <p>C) women and youth will participate and receive benefits in the implementation of the declared project</p> <p>Gender-sensitive assessment and selection criteria and procedures for documenting best practices and lessons learned will allow for a more complete collection of the best practices for project components</p>	procedures are gender-sensitive		
<p>For the purpose of effective gender mainstreaming, develop gender training programs and schedules for project management:</p> <ul style="list-style-type: none"> • Provide training on key policies and procedures (Gender awareness) to project supervisory board members, executives from the executing agency and staff and project manager • Manager, M&E and Complaints Officer - Gender skills development • Gender expert of the project and gender focal points of the implementing agency - training on increasing gender competence (Gender competence) 	<p>Number of gender training events for project management</p> <p>Number of trained</p>	5 in-house training	<p>Gender expert</p> <p>UNDP CO gender team</p> <p>Project manager</p>	During the first and second year of the project

Annex 19: Knowledge Management Plan

The project knowledge management approach is geared towards addressing capacity gaps and barriers and includes a range of practices to identify, capture, store, create, update, represent and distribute knowledge for use, awareness, and learning.

The project has multiple elements that will contribute to the knowledge management approach. The proposed Knowledge Management Plan includes **seven elements** aligned with the GEF requirements to foster learning and sharing from relevant projects and programmes, initiatives, and evaluations, that will contribute to the project's overall impact and sustainability.

1. Overview of existing lessons learned and good practices that informs the project concept

The project has reviewed several approaches and promising good practices in sustainable land management and biodiversity conservation, that have been implemented during the past years together with the local communities and stakeholders. Barriers persist, represented mainly by a lack of an enabling environment, including prioritized policies and investments that would drive transformational results in tackling desertification, land degradation, water scarcity and biodiversity decline in Turkmenistan. The project will build on the tested methods and practices within previous donor funded projects, by working with the local stakeholders to further strengthening their capacities for SLM measures and incentivizing a larger up taking of the tested good practices.

The German Agency for International Cooperation (GIZ) has funded a number of projects in Turkmenistan, being one of the first agency to support local communities' understanding about the principles of development projects; the project "Participation of the local population in the management of natural resources of the Karakum Desert" was one of the first donor funded projects and its main task was to familiarize the local population and scientists of the National Institute of Deserts, Flora and Wildlife with the principles of development projects, and increase their capacity and knowledge. Other projects that have laid down foundations upon which this project will build, were implemented during 2001 to 2010, in three different ecological conditions (desert, mountains and an irrigated areas) 1) GIZ "Combating land degradation in various ecological regions of Turkmenistan" (2001-2006) and 2) GIZ / UNDP-GEF "Capacity Building and Local Investment for Sustainable Land Management" (2008-2010). The second project was carried out within the framework of the Central Asian Countries Initiative for Land Management (CACILM) regional program designed to strengthen the implementation of the UN Convention to Combat Desertification (UNCCD) in the region.

Previous knowledge generated by the GIS supported Integrated Land Use Management Approaches (ILUMA) in the Central Asian region in particular under the "Sustainable and Climate Sensitive Land Use for Economic development in Central Asia" (2008-2015) has been considered in the project design of its integrated multi stakeholders participative land use planning.

The aim of these projects was to create partnerships for sustainable land management between local government, communities and civil society, in an effort to overcome the existing divide between the administrative structure of land administration and the real needs of land users, joint dialogue with the involvement of key ministries, local government and local land users. CACILM I project in particular has tested several successful SLM approaches that have informed this GEF project strategy under Output 1.2, 1.2 and 1.4 (e.g. tested methods of land restoration, saxaul planting and salt tolerant crops).

The regional project "Forest and Biodiversity Management, Including Environmental Monitoring" (FLERMONECA) aimed to strengthen regional cooperation and partnership with Europe in the field of forest management (FLEG), environmental restoration and collection of environmental data, exchange, monitoring and estimates (2013-2015). The project was funded by the European Union and implemented in five Central Asian countries. The project was carried out by the GIZ in cooperation with partners, the German forestry agency Landesbetrieb Hessen Forst, the Austrian Federal Environmental Agency (UBA) and the Regional Environmental Center for Central Asia (CAREC)- and some of its achievements, on which this GEF project will build upon, included the modernization of the Knowledge sharing platforms (eco-portals) of the Interstate Commission for Sustainable Development (ICSD), that enable data

and information exchange to support advancement of the sustainable development in the region. The project will further strengthen the capacity of ICSD to engage in regional cooperation and data sharing, as part of the water diplomacy and trust building activities under Output 3.1.

During 2009-2012 the project "Sustainable Forest Management in Turkmenistan" has supported the development of a new Forest Code of Turkmenistan and practical measures were taken to restore saxaul and juniper forests, a Forest Seed Center and a Tree Nursery equipped with modern technologies were created under the Forestry Department. These initiatives have strengthened the forestry department and their local branches capacities, and the project will build on these previous efforts and tested methods in assisted forest regeneration, especially during the implementation of forest restoration activities under the Output 1.2.

Within the framework of the projects: UNDP/GEF "Capacity building and on the ground investments for SLM (2007-2010)", the Adaptation Fund / UNDP project "Addressing the risks of climate change on the farming system in Turkmenistan at the national and local levels" (2012-2016) and the UNDP Regional Project "Climate Risk Management in Turkmenistan" (2013-2015), combined efforts were deployed to implement adaptation measures for the efficient use of water resources on the ground, and to provide advice on improving national laws and regulations designed to ensure the sustainability of project results. This project's strategy was informed by some of the good practices and methods tested for example, the engagement of Water Users Groups (WUGs) represents a trailblazing effort that has successfully tested the possibility engagement with water resource users associations (organized as Water Users Groups) and promote water efficient irrigation technologies at farm level. The project will build on this method of engagement with local water users and will create and capacitate new WUGs in the project area, promoting cooperation among water users (for example farmers using the same irrigation and drainage canals). The technical Manual for WUGs produced by the Adaptation Fund Project will be used as well, and the knowledge products (including training modules) generated by these projects that describe climate resilient agricultural practices. The Law on Pasture was an important step forward in laying down of a foundation for sustainable pastureland management. The project will build on these efforts and will further provide recommendations for institutional arrangements for pasture monitoring, regulatory amendments and guidelines for promoting LDN principles for suitable pasture management, i.e. strategically planning measures for avoiding degradation on some pasture areas through sustainable use planning, while reducing and restoring degraded pastures in other areas (Output 1.4 and Output 2.3).

The EU Water Initiative in Eastern Europe, the Caucasus and Central Asia (EUWI EECA) implemented by the OECD and the UNECE. The lessons learned from this project in applying IWRM in Turkmenistan have been considered in this project's activities under Output 1.3 and application of IWRM principles in the development of Integrated Water Management Plans in four priority districts. The EUWI EECA project contributed to the implementation of the EUWI National Policy Dialogues (NPD) on IWRM and water supply and sanitation in ten EECCA countries, including Turkmenistan.¹¹⁹ During Phase I (2008-2012), in Turkmenistan, EUWI EECCA assisted the MWE and others in the analysis of national legislation on water, sharing best practices from the ECA region on IWRM, on transboundary water accidents and on water as it relates to health issues. The vision of the project highlights the intertwined problems of water management/conservation, energy consumption/efficiency, sustainable land management/land degradation (salinization), and agricultural productivity, and addressing them through integrated approaches and activities, with a goal toward achieving multiple benefits in different areas, applied and technically proven first at specific sites in the Ahal province. Thus, improved water management is seen as leading not only to greater water availability, but also to significant energy savings, avoided GHG emissions, and reduced water and soil salinization.

¹¹⁹ Phase I (2008-2012) supported the participant countries in the following areas: Policy strategies and legislation based on IWRM and Water Framework Directive (WFD) principles; Intersectoral co-operation to improve water and health and implement the UNECE/WHO Protocol on Water and Health; National policies on transboundary waters in accordance with the UNECE Water Convention and other international environmental instruments; developing and implementing economic instruments in water policies, and facilitation of investment in water infrastructure and services.

2. Plans to learn from relevant projects, programmes, initiatives and evaluations

The project “Supporting Climate Resilient Livelihoods in Agricultural Communities in Drought-Prone Areas of Turkmenistan (SCCF Project)” was approved by the Special Climate Change Fund of the Global Environment Facility (GEF) in 2016 for the implementation in 2016-2021. It has implemented a series of demonstration in the same targeted provinces Dashoguz and Lebap (different areas), through three interrelated components: (i) improving climate-related socioeconomic outcomes in targeted agricultural communities in Lebap and Dashoguz provinces through the implementation of community-based adaptation solutions; (ii) mainstreaming climate adaptation measures in agricultural and water sector development strategy and policy; and (iii) strengthening national capacity for iterative climate change adaptation planning, implementation and monitoring in the country. This project has been developed to ensure that areas of potential overlap (e.g. legislative reform, piloting at a regional scale) are avoided and all activities are complementary. The project will focus on areas of land use planning and restoration that are not currently or expected to be addressed by the SCCF project. Moreover, this GEF was prepared considering and learned from the results produced under the SCCF project, for example the multi-cluster maps generated by the SCCF project have been useful in the selection of targeted areas; the Climate Vulnerability Assessments have completed baseline assessments during the PPG, the lessons learned and the evaluative knowledge has been used in the design of activities under Output 1.3 (demonstration of irrigation techniques) and the development of the Gender Analysis.

The lessons learned through the “Energy Efficiency and Renewable Energy for Sustainable Water Management in Turkmenistan” GEF funded project, which aims at increasing energy efficiency in the water-management sector, will be considered under Output 1.3 (e.g. methods used in canal lining, water pumps modernization, solar powered water pumping from wells and sardobs, calculation of cost-effectiveness). This project includes activities technical testing and demonstration of new irrigation technology, including drip and sprinkler systems. It also includes an activity on development, production, and deployment of canal lining materials to reduce infiltration losses and salinization of affected lands. All technical work of the project is intended not only to increase know-how among farmers and scientists, but also to create financial justification for scaled-up state and private investment.

The first Adaptation Fund funded Project "Addressing the risks of climate change on the farming system in Turkmenistan at the national and local levels" (2012-2016), has generated a number of lessons learned highlighted by the final evaluation, which have been considered in the project's grants mechanism design under Output 2.3 and when designing the replication strategy of the sustainable farming methods. For example, one of the evaluation's highlights mentions “ the importance of working through existing (community, public, commercial) resilience to ensure ownership and effective delivery”. This project includes therefore a series of SLM measures tested at farm level and replication through close farmer-to-farmer exchange of experiences, using farmer Field Schools (based on FAO Farmer Field School Model) and a group of *SLM Champions* to share successful good practices among local communities in the targeted regions.

This project will learn from the new Adaptation Fund Project “Scaling Climate Resilience for Farmers in Turkmenistan” implemented in partnership with the Ministry of Agriculture and Environment Protection, with a budget of \$ 7,000,040 aiming at building resilience to climate change among the emerging class of small and medium size private farmers in Turkmenistan, including women farmers, strengthening the agriculture extension services and transitioning towards resilience agriculture practices. Due to ample synergies between the two projects a number of joint activities will be organized such as: the trainings of 50 extension officers and joint awareness sessions. The knowledge generated under both projects will be shared through the online platforms to be set up by the Adaptation Fund project.

The project will learn from the FAO project “Integrated Natural Resources Management in Drought-Prone and Salt-Affected Agricultural Production Landscapes in Central Asia and Turkey (CACILM 2)”. The overall objective of “CACILM 2” is to scale up integrated natural resources management (INRM) in drought prone and salt affected agricultural production landscapes in the Central Asian countries and Turkey. Adoption of integrated landscape management approaches and INRM practices should help stabilize and even reverse trends of soil salinization, reduce erosion, improve water capture and retention, increase the sequestration of carbon, and reduce loss of agrobiodiversity, thereby reducing the desertification trend in terms of extent and severity. Expected deliverables: 1. Multi-country collaboration and partnership to foster the effective delivery of INRM; 2. Integration of resilience

into policy, legal and institutional frameworks for INRM; 3. Upscaling of climate-smart agricultural practices in drought prone and salt affected production landscapes; 4. M&E, and adaptive learning. There are ample opportunities for synergies. This GEF project has built its strategy on some of the results of CACILM I and it will continue learning from and cooperate with the CACILM II project tested methods, during the implementation phase, in view of sharing knowledge and good practices, harmonizing approaches and advocating for more sustainable agriculture practices.

The Project of the Federal Ministry for Environment, Nature Conservation and Nuclear Safety of Germany (BMUB): Central Asian Desert Initiative (CADI) – Conservation and sustainable use of deserts in Turkmenistan, implemented by Ministries of Agriculture and Environment Protection of Turkmenistan, Kazakhstan, Uzbekistan, Michael Succow Foundation and University of Greifswald (Germany). The project aims to assist the biodiversity conservation and development of desert ecosystems' functions in Turkmenistan; preparation of scientific-technical rationale for the inclusion of desert ecosystems into the UNESCO World Heritage List; delivery of events for the management improvement and territory expansion of one of the existing desert protected areas; technical support and delivery of joint field researches, training of protected area's staff, dissemination of acquired knowledge and public outreach. CADI project results have informed this project's strategy, e.g. good practices in the inventory of wild ungulates, inventories of flora and fauna conducted in Gaplanyr Reserve and the knowledge generated during the process of nomination of the deserts of the temperate zone of Central Asia for inclusion in the UNESCO World Heritage List. The proposed GEF project will further contribute to the PA system's data base, building on CADI supported inventories of wildlife.

The project will further learn from and use the FAO land use planning guidelines and lessons learned from the land use planning experience generated under the UNDP/GEF project "Supporting sustainable land management in steppe and semi-arid zones through integrated planning and Agri-environmental incentives" in Kazakhstan (2015-2020) and in fact several steps in participatory land use planning at district level were informed the strategy under Output 1.1.

This project is planning to further explore synergies with and learn from the Uzbekistan UNDP GEF "Project Conservation and sustainable management of lakes, wetlands, and riparian corridors as pillars of a resilient and land degradation neutral Aral basin landscape supporting sustainable livelihoods" and a number of cross border approaches have been included under Output 1.3 (aiming at harmonization of water management approaches based on IWRM principles), Output 1.1. (harmonization and knowledge exchange regarding the methodologies and best practices in setting LDN voluntary targets at regional level, and introducing LDN principles in land use planning and Output 2.1 (cross-border programming for the facilitation of migratory routes of wild ungulates).

The project will test and adopt innovative solutions to support embedding LDN principles in land use planning for example it will explore the feasibility to make use of the Innovative Land Use Planning software that will be promoted by UNCCD through open source data and will be selected as a result of the recent GEO-LDN Technology Innovation Competition, whose results will be final during the first quarter of 2021¹²⁰. Placing LDN at the centre of land use planning can be challenging, as it was reported by the UNCCD Science-Policy Interface (SPI)¹²¹. This "no net loss" land use planning module would help users to map anticipated future impacts of land use decisions for a given area.

This project will coordinate the generated knowledge and exchange research findings with the GEF/UNDP International Waters Project "Strengthening the Resilience of Central Asian Countries by Enabling Regional Cooperation to Assess High Altitude Glacio-nival Systems to Develop Integrated Methods for Sustainable Development and Adaptation to Climate Change" (GEF ID 10077). The opportunities for knowledge exchange will be used by both projects to strengthen the knowledge base for the achievement of results. The project-born research findings will contribute to the GEF/UNDP International Waters project specific focus on assessing the water flow of Amudarya River especially considering the climate change water shortage predictions. Turkmenistan is one of five

¹²⁰ <https://www.unccd.int/news-events/competition-design-land-use-planning-software-land-degradation-neutrality>

¹²¹https://knowledge.unccd.int/sites/default/files/2019-08/UNCCD_SPI_2019_Report_1.2.pdf

countries part-taking in this regional project that will promote and facilitate the establishment/strengthening of national and regional glacier centers and with an eye towards continuously assessing current and future water flow in key rivers, including the Amu Darya, Syr Darya and the Illi River. Both projects will involve IFAS organization, which will further support the coordination. The GEF/UNDP International Waters regional project is fully coordinated with IFAS and will deliver national action plans informed by inter-ministerial dialogues and knowledge and data exchanges and may provide key building blocks for other planned/ongoing projects specific to increasing climate change adaptation and informing management practices.

3. Proposed processes to capture, assess and document information, lessons learned, best practices and expertise generated during the implementation

The systemization of the project's experiences will be performed on an annual basis and will be used internally to inform the project management team in the execution of its functions, the Project Management Unit in its implementation, and the project's stakeholders and beneficiaries. The lessons learned will input into the project iterative management process and will guide project management adaption. This systemization will occur at several levels, including at the project management level, stakeholder involvement and management level, and during the implementation of project activities to document best practices and knowledge generation at the local level. The lessons learned and best practices will be compiled, collated, and packaged into several formats (e.g., brochures and flyers, electronic forms, short videos, and impact documentaries) that are geared towards specifically targeted groups and audiences, using community groups and/or NGOs to assist in capturing lessons learned and best practices. The project will also support the participation of government, private, and community stakeholders in conferences to share experiences, best practices, and lessons learned about biodiversity conservation and SLM/water management in production landscapes, and in global/ regional forums with for information exchange.

M&E of the project's implementation will be conducted following GEF and UNDP guidelines and according to the M&E plan described in Section VII of the project document. The main tasks of the M&E plan include an inception workshop, annual monitoring of indicators in project results framework, annual project implementation reports (PIR), annual NIM Audits, third party monitoring spot-checks, ongoing monitoring of environmental and social risks, ongoing monitoring of the Stakeholder Engagement Plan and the Gender Action Plan, Project Board meetings, oversight mission by the UNDP-GEF team, mid-term and terminal GEF7 core indicators updates, and an Independent Mid-term Review (MTR) and an Independent Terminal Evaluation (TE), among other activities.

The Project Manager will ensure the collation of all the project experiences and information. This knowledge database will then be made accessible to different stakeholder groups in order to support better future decision-making processes in mainstreaming biodiversity and sustainable land management in Turkmenistan and more consistent adoption of best practices.

4. Proposed tools and methods for knowledge exchange, learning and collaboration

The project will codify generated experience through guidelines, manuals, concept papers, scientific data and surveys, research analytical reports, video-conferences. The captured and codified knowledge generated by the project reflected by dedicated KLM indicators will be assessed annually during the mandatory GEF PIR exercises (these KM indicators are embedded in the overall project Results Framework). The KM Project Specialist, the M&E Expert and Communication Specialists, in collaboration with the Project Manager, the Project Board, and the PMU, will identify and systematize the project's experiences and best practices in SLM, biodiversity conservation, water management and irrigation, forest restoration, and sustainable pasture management and gender mainstreaming, among other topics.

Each project output will include the documentation of lessons learned from implementation of activities under the output, and a collation of the tools and templates (and any other materials) developed during implementation.

The manuals and guidelines produced by the project are expected to be formally approved and institutionalized, to provide for enduring and scalable results. The wealth of information, lessons learned, knowledge products, biodiversity, water and land management databases will provide useful evidence for policy making. Partnerships

with other projects such as Adaptation Fund “Scaling Climate Resilience for Farmers in Turkmenistan” will offer the opportunity of sharing good practices tested in Dashoguz and Lebap and lessons learnt via the platform for the provision of long term agricultural extension services to be set up in partnership with the Union of Industrialists and Entrepreneurs in Turkmenistan.

Knowledge exchange at regional level will engage the national representatives in IFAS and the project’s support to the set-up of a Special Platform for Multilateral Cooperation and Information Sharing on environment and water issues. Knowledge sharing at regional level will be aligned with the national priorities within the framework of the Joint Communique of the Council of the Heads of the State-Founders of the International Fund for Saving the Aral Sea (2018), under the Regional Environmental Protection programme for Sustainable Development of Central Asia (REP4SD CA) adopted by the Ministers of Environment of Central Asia States in Nukus, Uzbekistan (2019) and under the Aral Sea Basin Assistance Programme 4 (ASBP-4). Sharing data and planning, harmonizing programmatic initiatives are often considered first steps in building up trust and sustained cooperation among riparian states, as part of water diplomacy.

Learning opportunities and technology transfer from peer countries will be further explored during project implementation. An exchange of experience on LDN targets will be facilitated by the project through the organization of a three-day regional workshop, with the participation of UNDP GEF and UNCCD experts, aiming at discussing best practices in establishing national and subnational level LDN targets and benefiting from exposure to other international good practices in achieving land degradation neutrality at national and regional levels. Furthermore, the project knowledge management approaches will actively support participation in regional and global knowledge sharing networks (such as UNCCD/WOCAT). Finally, the project will prepare a *Scaling Up and Replication Strategy*, to be approved by the Project Board and implemented by the member stakeholders, ensuring that the valuable knowledge generated during the project implementation, documenting the trailblazing efforts that drive progress towards LDN and integrated land-water management in production zones, will be replicated and scaled up to other regions of Turkmenistan.

The project will share the knowledge and lessons learned with other initiative notably the Green Climate Fund project “Developing a National Adaptation Planning Process in Turkmenistan” (in the form of proposal submitted to GCF at the time of the GEF project document writing). The total project budget of the proposed project is \$1,814,767 to be implemented over 36 months in Turkmenistan by UNDP in partnership with the Ministry of Agriculture and Environmental Protection. Particularly relevant will be the results of the project’s climate risk assessments conducted on the water sector for Dashoguz and Lebap targeted districts (Act 1.3.1), that will be coordinated and shared with the GCF project.

At national level, the project will disseminate information through relevant websites such as government ministry websites and the UNDP Country Office website, and produce and distribute quarterly updates to stakeholders, in order to further facilitate the dissemination of this information. The project will build on partnerships at provincial and national levels, and with national and regional structures within the Ministry of Agriculture and Environment Protection (MAEP). This may include various agriculture and water research institutes and universities (mostly operating under the auspices of MAEP), which have regional affiliates of varying capacity and quality. The project team will work with project partners (primarily the MAEP) in the development and dissemination of knowledge products, as well as through online systems. Developed learning materials will be transferred to the MAEP as well as other partner institutions for further dissemination and updating. At local level, knowledge sharing through far-to-farmer experience and through “Champions of Sustainable Land Management” will be explored to share successful good practices among local communities in the targeted regions. Radio is a very accessible information tool in rural areas and help connect the farmers to technical specialists, policy-makers other farmers, suppliers or buyers. The radio broadcasting will be explored not only as a project knowledge exchange method but also as a resource to strengthen extension services.

5. Proposed knowledge outputs to be produced and shared with the stakeholders.

The project’s generated technical knowledge and awareness/information materials will be captured, codified and sequenced and will address technical knowledge and awareness gaps at national and local levels in relation to the

Aral Sea Basin environmental problems addressed by the project, and will support regional cooperation among countries in the Aral Sea Basin.

The Project Results Framework includes the following indicators and end-of-project targets related to the KM products considered relevant for the achievement of the project's outcomes:

Component 1 Promoting Land Degradation Neutrality

KM Indicator 16 Level of information necessary for improved irrigation water management at farm level considering the climate change impacts and knowledge regarding the necessary water requirements of the lakes and wetlands ;

Targets:

- Comprehensive inventory of water use patterns, water losses and the realistic water requirements in agriculture sector in the targeted areas (for 100,000 ha of irrigated areas) available to water managers and water users.
- Hydroclimatic scenarios and water economic models-informed Sustainable Water Management Recommendations for optimization of water allocation among multiple water users, approved by decision makers
- Water Management Plans covering 100,000 ha approved and under implementation.
- Researched water requirements (minimum ecological flow) for lakes, wetlands and riparian zones in Amudarya Basin (within Turkmenistan side), is completed and accessible to end users and water managers.

KM Indicator 17: Existence of formal guidelines and methodology on LDN and integrated land use planning, on SLM measures applicable for practical improvements of land management, use of mineralized drainage water and restoration of saline lands

Targets:

- Methodology for setting up regional LDN targets approved by the MAEP, showcasing Lebap and Dashoguz experience
- Methodology for LDN compliant/compatible Integrated Land Use Planning at etraps/district level approved by the MAEP, showcasing Dashoguz and Lebap experience
- Available innovative land use planning module centered on LDN principles (Act.1.1.5)
- Guidelines on the development of sustainable pastures and forest management plans, to achieve LDN, for local natural resources users approved by MAEP
- LDN compatible Integrated Land Use Planning GIS based Concept available to land use decision makers
- Integrated Bio-saline Agricultural Model for Sustainable and Integrated Use of Mineralized Water Resources and salt-affected soils
- LDN Regional Workshop Proceedings Report entails an analysis of methodologies used by different countries during regional LDN target setting process.

Component 2 Securing Critical Ecosystems for Biodiversity and Ecosystem Services

KM Indicator 24 : Existence of environmental data on IBAs/KBAs status, species and habitats, improved data base available for PAs managers and environmental inspectors; Conservation experience and knowledge on key species and critical ecosystems shared through seminars, workshops, community engagement, conferences, through S-S exchanges and knowledge products in the region; Assessment of ecosystem services and ecotourism potential.

Targets:

- Gap Analysis Report on the IBAs/KBAs Ecological Integrity, Analysis of Anthropogenic Threats and Recommendations to Decision Makers
- Data base on key species and habitats in the existing PAs and KBAs/IBAs under the project scope strengthened and accessible; PAs managers have a better access to environmental information and improved based for research and knowledge management
- Study on the Potential for eco-tourism and ecosystem services assessments and potential PES schemes in the buffer and production zones around PAs, KBAs/IBAs in Amudarya Basin - available to decision makers and local communities
- Experience with the development and implementation of two PES mechanisms established under the Management and Business Plans of targeted PAs.

Component 3 International knowledge sharing and cooperation for the Aral Sea Basin

KM Indicator 28 Number of events strengthening national capacity to participate into regional cooperation programmes in the Aral Sea Basin

Targets:

- 5 Water Diplomacy Seminars supported by IFAS and the UN Regional Centre for Preventive Diplomacy for Central Asia (UNRCCA)
- 3 IFAS meetings attended by Turkmenistan delegation contributing to IFAs decisions

KM Indicator 29 Number of national priorities embedded in IFAS led programmes and initiatives, supported by the project.

Target:

- 5 project-supported national priorities embedded in International and regional initiatives put forward by Turkmenistan to address problems of the Aral Sea Basin .

KM Indicator 30 Number of awareness raising events and targeted KM products on water, LD and BD issues in the Aral Sea

Targets:

- 20 awareness raising events
- 20 Radio Talk Shows for farmers with a segment for women farmers
- Available LDN/SLM/biodiversity training/information materials and country-specific knowledge shared on UNCCD/ WOCAT platform; CACILM II platform; CAREC platform; Adaptation Fund project platform
- Project-video Documentary
- Analytical technical reports on integrated water-land resources to inform regional programming under IFAs
- Final report with monitored and evaluated project results
- Project Sustainability Strategy presented and endorsed by project Board and MAEP

The inclusion of these indicators in the project Strategic Results Framework will help the project team ensure that the necessary level of knowledge and information is generated to achieve the project outcomes.

6. Discussion on how knowledge and learning will contribute to overall project's impact and sustainability

A key element of the project is the Land Degradation Neutrality target setting and actions to attain and monitor land degradation neutrality (under Output 1.1.)

The knowledge and information generated from the land degradation neutrality (LDN) target setting and subsequent implementation and monitoring processes contributes further to the learning process (KM Indicator 17). This knowledge can be used to evaluate the effectiveness of interventions in maintaining land-based natural capital (e.g. the outcomes of counterbalancing mechanism), to consider the effectiveness of safeguards (e.g. protection the rights of local people) and to inform future land management.

The LDN informed land use planning is another key element under Output 1.1 . The land degradation neutrality (LDN) response hierarchy “avoid-reduce-restore land degradation” is an overarching principle for LDN implementation which guides decision makers in planning interventions to achieve LDN. The project generates the necessary knowledge during the project's land use and land degradation assessments¹²² and produces the guidelines and manuals to serve for replicating the LDN informed land use planning in other districts. The Knowledge generated under the Output 1.1. alone is expected to change the way land management is done in the country. The government led National LDN Target Setting process will serve as an upscaling platform of the project's knowledge and demonstrated experience at regional and district levels while the innovative solutions explored by the project and the regional knowledge sharing on LDN experience among countries in the regions are transformation catalysts.

The project's generated knowledge base under Output 1.3 including updated assessments of water use patterns (KM Indicator 16) in the targeted four districts, hydroclimatic scenarios and water economic models informing

¹²² These assessments are part of LDN and land use planning stages, that will inform land use decision makers at targeted districts level, on the most suitable combination of interventions to support land degradation neutrality

sustainable water management plans and researched minimum ecological flows water requirements for lakes and wetlands in Amudarya Basin, will inform the operationalisation of an institutional agreements to enable a more balanced water use among different sectors which includes natural ecosystems. Analytical reports, statistical data and hydroclimatic models will be shared at regional level, with countries in the region. IFAS conferences/ videoconferences and platforms and knowledge shared (KM Indicators 28 and 29) will enable communication and discussion of shared experience and the promotion of learning and encouragements for new knowledge (Component 3). Sharing data and planning are often considered first steps in building trust and strengthening cooperation among riparian states, therefore they are always part of transboundary water management and diplomacy.

The knowledge generated by the good practices in SLM implementation on irrigated areas and pastureland (KM Indicator 24) in in production zones around PAs and KBAs/IBAs (e.g. Output 1.4 and Output 2.3) will demonstrate that SLM measures can be, in fact, profitable and are expected to incentivise farmers in adopting biodiversity friendly approaches and reducing pressure on key indicator species. The project’s KM approaches will have the *SLM champions* at its core, imparting knowledge, describing the challenges that were overcome and the multiple benefits that can be obtained (Output 3.1). The projects various communication tools will ensure a wide outreach and knowledge experience dissemination and a continued learning process. For example, based on targeted research and questionnaires, the project will adjust tailored content or “on-demand” radio talk shows to be delivered to farmers with a segment dedicated to women farmers. The project will learn from this experience and from the available international best practices¹²³ in using radio in agricultural extension, and these will serve as steppingstones for the development of a proposal aiming at attracting partnerships with private sector and raising funds to set up a radio extension service- an innovative tool for the country, that is expected to reach out to many farmers who currently are lacking any kind of advisory support.

Finally, the project supported **inventories, assessments and legal amendments** to the current legislation will generate the necessary knowledge to inform more effective PAs regulations. The knowledge generated under the updated KBAs/IBAs Gap Assessment, the new habitat mapping and inventories of indicator species will inform more effective policy decisions, expected to increase the protection status of KBA/IBAs, some of them receiving Sanctuary status (IUCN IV) . At the same time, the awareness campaigns and local community outreach activities will create a critical mass of understanding of the crucial role of the ecosystem services supporting resilient livelihoods (KM Indicator 30). It is expected that more farmers will shift to sustainable practices as a result. Biodiversity friendly agricultural practices and communities supported ecological corridors would considerably decrease the anthropogenic pressures on rare species nesting and feeding in these valuable habitats in Amudarya Basin.

7. Plans for strategic communication

The Project stakeholders are diverse in their knowledge, influence, inclusion and interests over the land/ water resources management. The following table presents a brief introduction to the key stakeholder groups, some of their main communication needs identified during the PPG stage and proposed communication tools to be used. A PPG conducted survey has informed the communication tools and approaches that will be used by the project, and these tools will be further refined during the Inception stage.

Stakeholder groups	Role in the Project	Communication needs	KM and Communication tools
1. Politicians and policy and decision makers, including ministry	<ul style="list-style-type: none"> Participate in project preparation, project strategy design, technical 	<ul style="list-style-type: none"> Information on the Aral Sea disaster as the multiplying factor for the land and water 	<ul style="list-style-type: none"> Analytical reports and technical background information to support

¹²³ <https://www.g-fras.org/en/good-practice-notes/using-radio-in-agricultural-extension.html?showall=1>

Stakeholder groups	Role in the Project	Communication needs	KM and Communication tools
representatives of foreign affairs, environment, agriculture, fisheries, water, communal services, local authorities and other relevant government agencies.	<p>advisory groups, peer/technical review of relevant deliverables;</p> <ul style="list-style-type: none"> • Approve national decrees, regulations and policies with regard to key biodiversity areas, land and water management; • Provide feedback on monitoring the ecological parameters for climate change impact identification; • Review and issue permissions for in-country implementation of the Project; • Participate in international negotiations over water quality and quantity; • Provide input for the establishment of the gender-inclusive financial micro scheme supporting smallholders; • Provide input in developing the long-term land restoration plans for biodiversity; • Provide valuable information with regard to key biodiversity areas, land and water management; • Approve the establishment of the national LDN target. 	<p>degradation issues in pilot regions;</p> <ul style="list-style-type: none"> • Information on the benefits of multi-sectoral approach for integrated land and water resources management; • Information about benefits of micro-scheme system for smallholders that contributes to improved livelihoods and secured global environmental benefits; • Information on the importance of establishing the national LDN target as a tool to fighting progressive land degradation and desertification; • Information on enhancing knowledge on regional water management challenges and potential solutions, relevant environmental initiatives and water diplomacy (existing water management negotiation tools) • Create a critical mass of understanding and awareness the negative consequences of unsustainable agricultural practices on valuable desert pastures ecosystems and the importance of adopting bylaws for sustainable pasture, land and water management; • Information on the long-term restoration planning of the Aral Sea basin impact zone. 	<p>preparation for International meetings regarding integrated sustainable water management and environment quality issues;</p> <ul style="list-style-type: none"> • Coordination meetings and dialogues; • Awareness campaigns entailing awareness seminars, media outreach exhibitions and fairs, community round table meetings, radio and TV talks etc. • Group and personalized dialogues; • Project related policy briefs; • Information brochures on different aspects of LDN and integrated land/ water resources management; • UNCCD approved best practices platforms such as the World Overview of Conservation Approaches (WOCAT) • CACILM II and CAREC platforms entailing best practices on Sustainable Land Management • Capacity building seminars and workshops; • Documented good practices and success stories, video documentaries; • Exchange study visits on national and regional levels.
2. Local communities of	<ul style="list-style-type: none"> • Participate in the project preparation; 	<ul style="list-style-type: none"> • Awareness about international best practices 	<ul style="list-style-type: none"> • Documented good practices and success stories LDN,

Stakeholder groups	Role in the Project	Communication needs	KM and Communication tools
<p>farmers, natural resource users, and farmer associations.</p>	<ul style="list-style-type: none"> • Participate in gender-sensitive capacity building activities dedicated to sustainable natural resources management; • Develop farmer-to-farmer learning practices within the country and with neighboring countries implementing similar initiatives in the region (e.g. Uzbekistan); • Participate in the design of a micro scheme support for livelihoods; • Understanding and testing internationally proven best practices in sustainable land management that will improve economic and ecologic conditions and will improve their livelihoods; • Participate in the project activities targeting conservation and sustainable management of natural ecosystems in Amu Darya basin; • Participate in project-supported participatory dialogue with the representatives of the Protected Areas (PAs) management units and local authorities, in order to find consensus over sustainable practices in the PAs buffer zones and production zones. 	<p>in water and land management for sustainable use and efficiency supporting resilient livelihoods;</p> <ul style="list-style-type: none"> • Awareness about the LDN concept and its application through various Sustainable Land Management (SLM) measures; • Awareness of the environmental flows necessary to maintain ecological integrity of lakes, wetlands and riparian areas and awareness on wetlands' ecosystem services to their livelihoods; • Peer-to-peer information exchange with Uzbek farmers; • Awareness about legal provisions regulating economic activity permitted within the buffer and transition zones of Key Biodiversity Areas; • Awareness on the importance of equal inclusion of men and women in the decision-making process over natural resources management. 	<p>water and land management issues;</p> <ul style="list-style-type: none"> • Strengthened agricultural extension services to provide personalized advice on sustainable agricultural practices and technologies Group and personalized advising sessions on land practices and micro-scheme options; • Awareness campaigns entailing awareness seminars, media outreach, exhibitions and fairs, community round table meetings, radio and TV talks etc. • Engagement with PAs managers and Group negotiations targeting proper management of natural reserve areas; • Round table meetings with local regulatory authorities; • Information brochures on different aspects of LDN and integrated land/ water resources management; • Digital tools to enhance further capacity building of project beneficiaries; • Capacity building seminars and workshops; • Video documentaries showcasing best practices; • Farmers field schools and farmer-to-farmer experience sharing; • Farmers visits to districts and locations that have benefited from prior donor supported -project support in order to share experience.

Stakeholder groups	Role in the Project	Communication needs	KM and Communication tools
3. General public, non-governmental institutions, representatives of academia, youth and women groups	<ul style="list-style-type: none"> • Encourage responsible public policies for promotion of sustainable use of natural resources; • Facilitate networking among the different groups; • Facilitate dialogue on benefit sharing with local communities and direct project beneficiaries; • 	<ul style="list-style-type: none"> • Information about the key concepts of the project (such as LDN, land degradation, Sustainable Land Management (SLM), environmental flows and wetlands ecosystem services; the importance of adequate and fair regional water management in the context of climate change; importance of gender consideration and differentiated women and men needs with regard to climate change and access to natural resources), processes, progress, achievements, good practices, lessons learnt and implementation gaps; • Information and awareness about sustainable natural resources management for generating economic, social and environmental benefits to the country; • Awareness about international and regional institutions working with transboundary water resources management; • Documenting and sharing experiences of project related actions. 	<ul style="list-style-type: none"> • Information on applied best practices in LDN and integrated land/ water resources management printed in relevant printed media and scientific-practical journals; • Organization of educational initiatives, conferences, forums, information seminars and events to inform the public by organizing competitions (drawings etc.), planting trees, science fairs, conducting online webinars on land-water-biodiversity issues, facilitating online discussions and thematic blogs. • Web stories on UNDP and other websites; • UNCCD approved platforms such as WOCAT, CACILM II and CAREC; • Project briefs; • Progress reports; • Information brochures on different aspects of LDN and integrated land/ water resources management; • Documented project successes and good practices; • Social media posts.
4. Mass media and journalists	<ul style="list-style-type: none"> • Encourage responsible public policies for promotion of sustainable use of natural resources; • Enhance visibility and awareness of the Project through their media channels; • Facilitate discussions on the Project themes (i.e. 	<ul style="list-style-type: none"> • Clear understanding of sustainable natural resources management, local applications; • Access to key stakeholders for insights to get relevant first-hand information; • Information on the contribution of the Project 	<ul style="list-style-type: none"> • Facilitated round table meetings with a broad participation of different stakeholders; • Facilitated media tours to pilot areas for demonstration purposes; • Facilitated master-classes on application of instruments

Stakeholder groups	Role in the Project	Communication needs	KM and Communication tools
	<p>LDN, land degradation, Sustainable Land Management (SLM), environmental flows and wetlands ecosystem services; the importance of adequate and fair regional water management in the context of climate change; importance of gender consideration and differentiated men and women needs with regard to climate change and access to natural resources) and provide timely updates to the public;</p> <ul style="list-style-type: none"> • Participate into the project's awareness campaign. 	<p>goals to SDGs and State Programs;</p> <ul style="list-style-type: none"> • Information on how benefits derived from the use of LDN could help developing the agro-sector. 	<p>for effective information campaigns;</p> <ul style="list-style-type: none"> • Web stories and blogs; • Different UNCCD supported platforms • Social media; • Project briefing materials and analytical reports; • Documented success stories and good practices on LDN; • Virtual discussions on sustainable natural resource management; • Press releases.
<p>5. International and local banks and micro credit institutions.</p>	<ul style="list-style-type: none"> • Facilitate investments in Sustainable Land Management measures to fight progressive land degradation and desertification; • Participate in testing affordable soft loans releases to mid-size and small farmers through a project supported micro-scheme for improving livelihoods and promote land degradation neutrality and sustainable integrated land and water management practices in agriculture sector; • Encourage "green" investments, consider shifting towards development of "green" portfolio; 	<ul style="list-style-type: none"> • Information about project progress, achievements, successes and implementation/funding gaps; • Information on "green" investment, soft loans, state insurance and etc. • Visibility. 	<ul style="list-style-type: none"> • Capacity building workshops for banks regarding integration of land analysis to successful business plans; • Presentation of international best practices in "green" investment and soft loan insurance; • Progress reports; • Documented project success and good practices; • Branded project promotional materials.

Stakeholder groups	Role in the Project	Communication needs	KM and Communication tools
6. Donor and funding organizations	<ul style="list-style-type: none"> • Provide co-financing of complementary activities that will support reaching the project's objective; • Participate into implementation of Project activities. 	<ul style="list-style-type: none"> • Information about project progress, achievements, successes and implementation/ funding gaps; • Visibility. 	<ul style="list-style-type: none"> • Progress reports; • Documented project success and good practices; • Branded project promotional materials.
7. Representatives of intergovernmental organizations and agencies	<ul style="list-style-type: none"> • Facilitate regional implementation of environmental programs and directives; • Enhance regional cooperation over transboundary water management. 	<ul style="list-style-type: none"> • Clear understanding of water management issues at local and regional level; • Clear understanding of IFAS system and international negotiations principles; • Linkages to national and international processes in LDN Target. 	<ul style="list-style-type: none"> • Project briefs; • Progress reports; • Documented project success and good practices; • Bilateral meetings and workshops.
8. Project and UNDP internal stakeholders, including national project staff	<ul style="list-style-type: none"> • Provide logistics, human resources and other support and facilitate internal decision-making for project implementation. 	<ul style="list-style-type: none"> • Information about project plans, progress, achievements, and lessons learnt and best practices. 	<ul style="list-style-type: none"> • Web stories, highlights and blogs; • Project briefs; • Project brochures; • Progress reports; • Documented project success and good practices; • Social media posts.

Discussion of the PPG Conducted survey results, methodology and targeted stakeholders

Introduction

The questionnaire was developed within the framework of UNDP/GEF/Turkmenistan Project on “Conservation and Sustainable Management of Land Resources and High Nature Value Ecosystems in the Aral Sea Basin for Multiple Benefits.” The main goal of the project is to tackle the drivers of land and water degradation in the Amu Darya landscape of Turkmenistan, which are directly linked to the soil degradation and salinization, habitat destruction and loss of biodiversity, diminishment and loss of water bodies (lakes, wetlands) and corresponding riparian biodiversity in this landscape.

One of the main aspects of this project is its multi-stakeholder participative and integrative nature, the project will be working therefore with multiple stakeholders’ groups and increasing their awareness level about critical issues of soil degradation, soil salinization, irrational and unsustainable water use, biodiversity declines due to habitat loss and habitat degradation and unsustainable agricultural practices, water scarcity and desertification.

Methodology

During the initial stage of survey compilation there were four different questionnaires designed targeting various stakeholder groups. Those groups were identified at the PIF stage and further refined according to the realities of the PPG stage. The four questionnaires were designed for the following groups of respondents:

1. Local communities: natural resources users, forest enterprise, farmer association and water association representatives, community-based organizations and women groups.
2. Government representatives: included representatives of local authorities and representatives of ministries and state agencies.
3. Broader public: included representatives of academia, public organizations (non-governmental organizations), representatives of the mass media, women and youth groups.
4. Banks and financial institutions.

General questions for understanding included the overview of the following areas:

- Unsustainable water and land resources practices
- Insufficient level of land management techniques and unawareness of the Land Degradation Neutrality (LDN) concept
- Biodiversity and nature reserves protection
- International negotiation mechanisms within the International Fund for Saving the Aral Sea (IFAS)

The questionnaires were distributed among respective focus groups both in electronic and in printed versions and collected by Communication Expert for further analysis. The following sections demonstrated results received according to each focus group.

Questions on the use of natural resources adapted for different categories of stakeholders

Natural resource users

The Questionnaire was developed for **natural resource users and local communities** in order to establish the baseline of their knowledge in integrated resources management and other relevant topics.

The Questionnaire was sent via official channels to the following state agencies that grant access to a wider public of respondents:

1. Hakimlik of Dashoguz velayat / Municipality of the Dashoguz province
2. Hakimlik of Lebap velayat / Municipality of the Lebap province
3. Hakimlik of Ruhubelent etrap of Dashoguz velayat / Municipality of the Ruhubelent district of the Dashoguz province
4. Hakimlik of Turkmenbashi etrap of Dashoguz velayat / Municipality of the Turkmenbashi district of the Dashoguz province
5. The Union of Industrialists and Entrepreneurs of the Dashoguz velayat / The Union of Industrialists and Entrepreneurs of the Dashoguz province
6. Hakimlik of Deynau etrap of Lebap velayat / Municipality of the Deynau district of the Lebap province
7. Hakimlik of Daraganata etrap of Lebap velayat / Municipality of the Daraganata district of the Lebap province
8. The Union of Industrialists and Entrepreneurs of the Lebap velayat / The Union of Industrialists and Entrepreneurs of the Lebap province

Furthermore, the on-site survey was conducted with the help of the PPG Experts for Community Engagement in Dashoguz and Lebap. There were 70 answers received from various respondents within this focus group (e.g. individual farmers, Farmer Association representatives, entrepreneurs etc.), with 40 answers coming from Lebap and 30 from Dashoguz. For the purposes of the Communication Plan, the survey questions and answers were translated into English, with outcomes summarized below in Table 1.1:

Table 1.1. Questionnaire responses of Natural Resources Users of Lebap and Dashoguz

N	Survey Questions and Answers	Q-ty	%
1.	Please indicate your gender	70	
	Male	49	70.00%
	Female	21	30.00%
2.	What is your age group	70	
	17-22	0	0.00%
	23-35	16	22.86%
	36-55	40	57.14%
	56 and older	14	20.00%
3.	What is your family status?		
	Single	11	15.71%
	Married	57	81.43%
	Divorced (no kids)	1	1.43%
	Divorced (single mother/ father)	1	1.43%
4.	Please, indicate your educational level:		
	Unfinished middle education	0	0.00%
	Middle education	13	18.31%
	College education	23	32.39%
	Unfinished high education	2	2.82%
	Higher education	33	46.48%
5.	Please, indicate your employment status:		
	State employee	26	33.33%
	Employee	5	6.41%
	Entrepreneur	7	8.97%
	Temporarily unemployed	4	5.13%
	Tenant	15	19.23%
	Farmer	14	17.95%
	Household	2	2.56%
	Pensioner	5	6.41%
	Dependent	0	0.00%
6.	From which gengeshlik you are? Please, indicate below:		
	<p><u>Dashoguz</u>: Dashoguz city, Ruhubelent Ashyk Aydyn (7), Ruhubelent city (3), Ruhubelent etrap (2), S.Turkmenbashi, S.Turkmenbashi Ak Altyn (9), Gorogly city (3). <u>Lebap</u>: Boyun-Uzyn (2), Danev city (4), Danev (Parahat) (3), Seydi city (3), Goyun-Uzyn, Dovletabad city (4), Dovleabat gengesh (5), Gabakly gengesh (4), Darganata (3), Parahat, Izbaz gengesh (9).</p>		
7.	Where do you mostly live?		
	City	22	31.43%
	Village	49	70.00%

	Other (specify)	1	1.43%
	Answer:		
8.	Are you acknowledged with the following concepts?		
	Biodiversity	41	58.57%
	Protected areas	58	82.86%
	Ecosystem services	31	44.29%
	Environment flow	26	37.14%
	Land degradation	63	90.00%
	Climate Change	63	90.00%
9.	From which sources did you get the information about concepts in Q8?		
	Mass media (newspapers, magazines, TV, etc.)	63	90.00%
	International projects	17	24.29%
	Books, scientific articles	43	61.43%
	Internet	36	51.43%
	Conferences, workshops, trainings	31	44.29%
10.	Have you participated in any trainings and workshops before (connected to desertification, water use, biodiversity, etc.)?		
	YES	33	47.14%
	NO	37	52.86%
11.	Which of the following activities do you do? How often? Please indicate the appropriate answer in the table: (each day=1; once a week=0.75; once a month=0.50; once a year=0.25):		
1	Fishing	16.5	23.57%
2	Grazing	44.5	63.57%
3	Provision of reeds as livestock fodder, heating and construction material	26	37.14%
4	Collecting wood for cooking/heating and construction	11	15.71%
5	Collecting medicinal plants	13	18.57%
6	Hunting (waterfowl, rabbit, etc.)	7	10.00%
7	Agriculture	57	81.43%
8	Other (specify)	6	8.57%
	Answer: nature conservation center.		
12.	What is your field of activity? Please select the answer or indicate the missing one in the empty field (you can mark several):		
1	Poultry farming	11	15.71%
2	Greenhouse	1	1.43%
3	Vegeculture	19	27.14%
4	Goats and sheep	20	28.57%
5	Cattle	15	21.43%
6	Gardening	15	21.43%
7	State order	13	18.57%

8	Other (specify)	11	15.71%
	Answer: Nature protection, Forest protection. Farmer Association (9), civil work (5), Production of mushrooms and biocompost.		
13.	In your opinion, does the existence of biodiversity (i.e. wild animals, wild plants, etc.) affect the following (choose as many as apply):		
	Improvement of environment	64	91.43%
	Economic growth	38	54.29%
	Your welfare	45	64.29%
	Improvement of people's health	57	81.43%
14.	In your opinion, how declined natural resources are in the area where you live?		
	Very declined	6	8.45%
	Declined	48	67.61%
	No change	8	11.27%
	Improved	9	12.68%
15.	In your opinion, what might be the cause for a decline in natural resources?		
	Insufficient water resources supply	57	81.43%
	Economic development	36	51.43%
	Land degradation	49	70.00%
	Climate change	57	81.43%
	Hazardous natural disasters (droughts, floods, mudflows, etc.)	43	61.43%
	Anthropogenic stress	47	67.14%
	Other (specify)	0	0.00%
	Answer:		
16.	Do you feel there is a need to organize natural protected areas in your region/area?		
	YES	52	74.29%
	NO	12	17.14%
	Not sure	7	10.00%
17.	Do you know what kind of activities local communities can do on the protected areas? <i>(number in red indicates respondents that refused to/ did not answer the question)</i>		

	<p>Answer: no grazing (15), no pouncing/hunting or fishing in special areas of reserve (8). Nothing can be done on the territories of nature reserves. No harm to nature. No wood cut. No picking of medicinal plants (3). All actions are prohibited (3). Different activities. No noise and logging. Nature reserve should be protected (2). Protect nature reserve as a sacred place (4). Protect nature reserve during natural disasters. To support nature reserves (2). Understand the need for people. Need to help cleaning up reserves. Rare animal and bird husbandry. No planting of fruit trees and bushes as well as no collection of mushrooms. Fish culture and forest growth. Counseling, advising. Nature reserves have great significance. Reserve is a home for rare animals that should be protected strictly and securely. There should be a close cooperation with schools and nature reserve staff to organize visits to nature reserves. No destruction of plants and trees (4). Offer support when necessary (3). Do not plant or harvest trees. Do not enter the territory of the reserve. No setting fire at the buffer zones of nature reserves. No collection of seeds of rare plants. Protection of wild plants and animals. No burning of grass. Participate in public outreach on explaining the role of nature reserves; participate in seminars (3).</p>	7	10.00%
18.	According to your opinion, how crucial it is to leave enough water in Amu Darya after agricultural use in order to have fish in the river?		
	Very important	44	62.86%
	Important	20	28.57%
	Somewhat important	7	10.00%
	Not important	0	0.00%
19.	How do you think, how important is the protection of the water quality management in your region?		
	Very important	55	78.57%
	Important	15	21.43%
	Somewhat important	1	1.43%
	Not important	0	0.00%
20.	From your experience, does the irrational use of water resources lead to increased soil salinity, advancement erosion and decreased land productivity?		
	YES	68	95.77%
	NO	0	0.00%
	Not sure	3	4.23%
21.	What kind of water saving irrigation technologies do you use on your land plot?		
	Overhead irrigation	3	4.29%
	Intracellular irrigation	12	17.14%
	Drip irrigation	9	12.86%
	Surface irrigation	56	80.00%
	Nothing (I don't use any)	7	10.00%
	Other (specify)	7	10.00%
	Answer: water pump (6), irrigation with the help of animals.		
22.	What kind of measures is it necessary to undertake in order to increase the application of new technologies in agriculture?		

1	Knowledge (access to information about these technologies)	55	78.57%
2	Engaging more labor	26	37.14%
3	Personal financial investment	34	48.57%
4	Financial loan	46	65.71%
5	International funds	48	68.57%
6	State support / Support of local authorities (loans, subsidies, etc.)	51	72.86%
7	Other (specify)	0	0.00%
	Answer:		
23.	Do you personally need financial support (i.e. subsidies) to apply water saving technologies in your field or you can switch to a water saving technology with your own investment?		
	YES, I will need outside financial support	49	69.01%
	NO, I will invest my own funds	15	21.13%
	Not sure	7	9.86%
24.	Have you heard about the existing system of state concessional lending in agriculture?		
	YES	48	68.57%
	NO	12	17.14%
	Not sure	6	8.57%
25.	In your opinion, what may prevent you from obtaining bank subsidies / loans?		
	I do not know about lending	8	11.43%
	Banks have a high interest on lending	32	45.71%
	Banks have high collateral requirements	28	40.00%
	I find it difficult to fill out bank documents	12	17.14%
	I am not interested in lending	11	15.71%
	Other (specify)	7	10.00%
	Answer: Banks give loans easily. The loan is not issued by the bank. Burocratic system of banks (2).		
26.	Do you have a need to increase the productivity and fertility of the lands you manage? If possible, indicate in hectares:		
	Pastures: 1 ha – 100 ha (5), 500-600 ha (3), 1000-3000 ha (8), 10 000 ha.	17	24.29%
	Agricultural land: 1 ha – 50 ha (31); 100 ha – 700 ha (20); 1000 ha (2).	53	75.71%
27.	If there was an opportunity, why (from the following) would you like to take a targeted bank loan? Check the necessary:		
	<i>To improve pastures</i>		
	Pedigree cattle breeding	32	45.71%
	Construction of watering points	37	52.86%
	Creation of food supply	41	58.57%
	<i>To improve land resources</i>		
	Development of new lands	32	45.71%

	Purchase of water-saving irrigation systems	33	47.14%
	Purchase of mineral fertilizers	33	47.14%
	Purchase of equipment	57	81.43%
	Purchase of seeds	40	57.14%
	Receive consultation service	26	37.14%
28.	In your opinion, how important is the equal participation of women in decision-making in public and management issues related to water and environmental protection? Circle the appropriate.		
	Very important	30	42.86%
	Important	25	35.71%
	Somewhat important	13	18.57%
	Not important	1	1.43%
29.	Based on your experience, how different are the roles of women and men in land and water management? <i>(numbers in brackets indicate how many respondents answered similarly; number in red color indicates how many respondents refused to/did not give the answer)</i>		
	Answer (men): women and girls are at the same level with men (28). Men usually play dominant role in decision-making, while women play important role in household. There is a slight difference. Land and water resources are important and should be managed by both men and women at the same level. In most of the cases, men are more likely to be more involved in decision-making. The role of women in society must be equated with that of men. Men need to be more responsive to bullying. Land and water resources should be used in a fair and equitable way. Women, as well as men, work in all sectors of the economy. Men and women should jointly increase their knowledge of land and water resources management, we well as agriculture and horticulture practices. Land and water users need to improve their knowledge and skills of gender issues. Tenant women are more likely (than men) to actively engage in labor during the growing season.	6	8.57%
	Answer (women): There is no difference between men and women (7). The women are at lower level. Women and girls are at a higher level. Women are more likely to make a decision. The roles of women and men are drastically different. Women and men work equally in agricultural sector while land and water resources are used on a regular basis. Both genders should be at the same level. Members of women organizations should be involved in the development of public relations (for the efficient use of water resources). For setting the equal positions between genders, you can use the management of water and land resources. It is also important to note that in agriculture the machinery is controlled by women.	3	4.29%
30.	How do you see the best way to popularize the knowledge about water saving technologies among the local community members? Choose the one(s) that apply:		
	Television	64	91.43%
	Newspaper	56	80.00%
	Magazine	47	67.14%
	Internet	39	55.71%
	Brochure	45	64.29%
	Seminars	54	77.14%

	Educational programs	45	64.29%
	Public outreach	49	70.00%
	Other (specify)	1	1.43%
	Answer:		
31.	How do you see your participation in the upcoming UNDP / GEF project?		
	Increasing knowledge	58	82.86%
	Participation in the grant program	49	70.00%
	Acquaintance with innovative technologies	45	64.29%
	Improving skills in practical training	35	50.00%
	Other (specify)	9	12.86%
	Answer: Possibility to join the scientific and practical experience on the plot. To address issues at hand. To acknowledge with project targets (2). To receive more benefits. Increase the number of seminars. Close cooperation with project. Will be interested to participate. To receive more benefits.		
32.	Would you like to know more about the following topics yourself? Indicate the priority level in the table below: (for top priority=1; priority=0.75; low priority=0.50; not interested=0.25)		
1	Conservation of biodiversity (wild animals and wild plants)	60.25	86.07%
2	Management of natural protected areas (nature reserves)	58.75	83.93%
3	Improving land quality	65.25	93.21%
4	Monitoring and methods for assessing the quality of irrigated land	51	72.86%
5	Water saving technologies	58.25	83.21%
6	Integrated natural resource management	50.25	71.79%
7	Gender issues	46	65.71%
	Other Topics:	1	1.43%
	Answer: Pastureland study		

A. Discussion of Results

Components 1 and 2: Biodiversity Preservation

In general, the Natural Resources Users' (NRU) group of respondents demonstrated sufficient level of awareness of the project related concepts of *climate change* (90%), *land degradation* (90%) and *protected areas* (83%) receiving

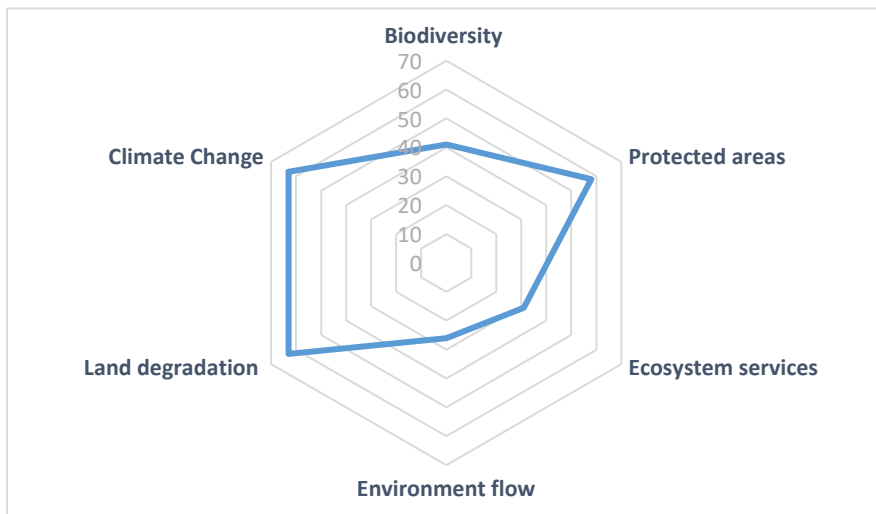


Figure 1. Results of the acknowledgement with the environment-related concepts in Q8

highest scores (see Fig.1). All those themes were related to *agricultural practices* prevalent among the respondents (with 81%).

The acknowledgment with the term of *environment flow* received 37% while crucial necessity to leave enough water in Amu Darya after agricultural use received 63%.

With full understanding of the term of *protected areas*, respondents were less aware of the *biodiversity* term in general (59%), still acknowledging its importance for the *improvement of environmental conditions* (91%)

and *improvement of people's health* (81%). Additionally, NRU saw a general *decline in natural resources* of their surroundings (68%) caused by multiple reasons including *insufficient water resources supply* and *climate change* (with 81% for each answer).

Related to questions of biodiversity and ecosystem services was the question of supplementary activities that respondents do on a daily/weekly/monthly/annual basis in neighborhood areas. The results of this question were summarized and divided between Lebap and Dashoguz velayats in order to highlight potential differences in the access to the natural resources that might be identified at this stage (see Fig.2):

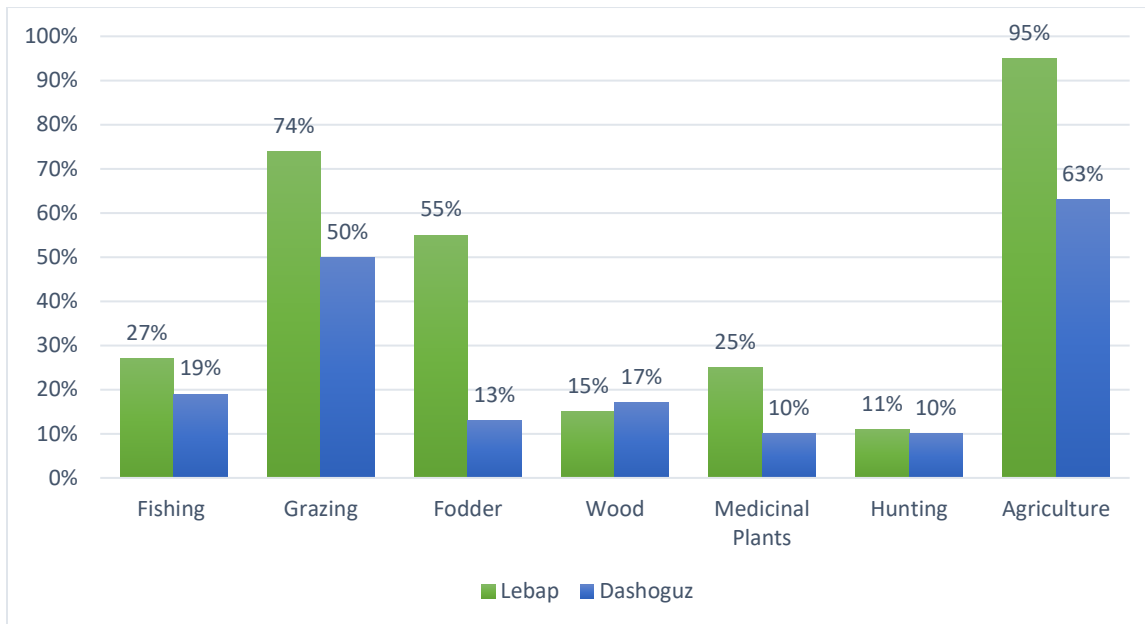


Figure 2. Diagram on comparing ecosystem services provided in Lebap and Dashoguz provinces in Q11

Comparative analysis demonstrated that Lebap respondents are more dependent on pastoral and agricultural activities (with prevalent agricultural practices).

Provision of reeds as livestock fodder, heating and construction material is also a widespread practice in Lebap, potentially being a by-product of agriculture. *Collection of wood for cooking, heating and construction* demonstrates analogous numbers in both velayats. For instance, majority of those who marked “wood collection” from Lebap indicated that they perform this practice *daily* and *monthly*, as oppose to Dashoguz respondents who marked this practice as *monthly* and *annual*. *Fishing* is also a wide-spread practice in Lebap with 50% of respondents marking it as their *annual* and *weekly* activity.

Component 1: Water Resources

Majority of respondents agreed that it is crucial to leave enough water in Amu Darya (i.e. minimum *environment flow*) (63%) while application of *surface irrigation* on their agricultural fields was mentioned as the general practice (80%). With this, the interest in knowing more about *water-saving irrigation systems* remained pretty high (83%), while the potential for investing in those listed in Q27 remained reserved, sharing a third place with mineral fertilizers (47%).

Water quality is another crucial aspect that bothers majority of respondents with 79% (in Q19) suggesting it as a “very important” issue by demonstrating a clear interconnection of water resources management and soil salinity, erosion and decreased land productivity (96% in Q20).

Components 2: Nature Reserves

Majority of respondents welcomed the proposal to *organize natural protected areas* in their region (74% in Q16) fully acknowledging the list of limited economic activities that they can do on these areas (the full list of respondents’ responses is provided in Table 1.1, Q17). The answers greatly varied, with prohibited cattle grazing, hunting and fishing to be at the top of the list.

Almost half of the responses highlighted the significance of nature reserves and needed better cooperation between reserves and local communities in terms of enriching local environmental knowledge. Such a position might be coupled with a high interest of NRU expressed in Q32 on acquiring more information in *conservation of biodiversity* (86%) and *management of natural protected areas* (84%).

Component on Micro-schemes:

Special attention in the survey was paid to financial capacities of respondents in terms of application of innovative solutions on their agricultural fields. Almost 70% of respondents declared that they need external financial support in order to switch to water-saving technologies (Q24), with sufficient investment expected to come (apart from the *knowledge acquisition indicated by 79% of respondents*) from *the government’s side* (mentioned by 73%), *international funds* (69%) and *financial loan programs* (66%). The majority of respondents of this survey demonstrated high level of awareness of the existing state lending program (69%) complaining of *high interest on lending of these banks* (46%) and *high collateral requirements observed* (40%).

In order to develop the micro-scheme objective, Q27 was delivered to respondents, asking them to choose the area, which might become a potential loan target. Received results indicated that there is a significant difference among NRU in two velayats, that need to be closely researched (**see Fig.3**):

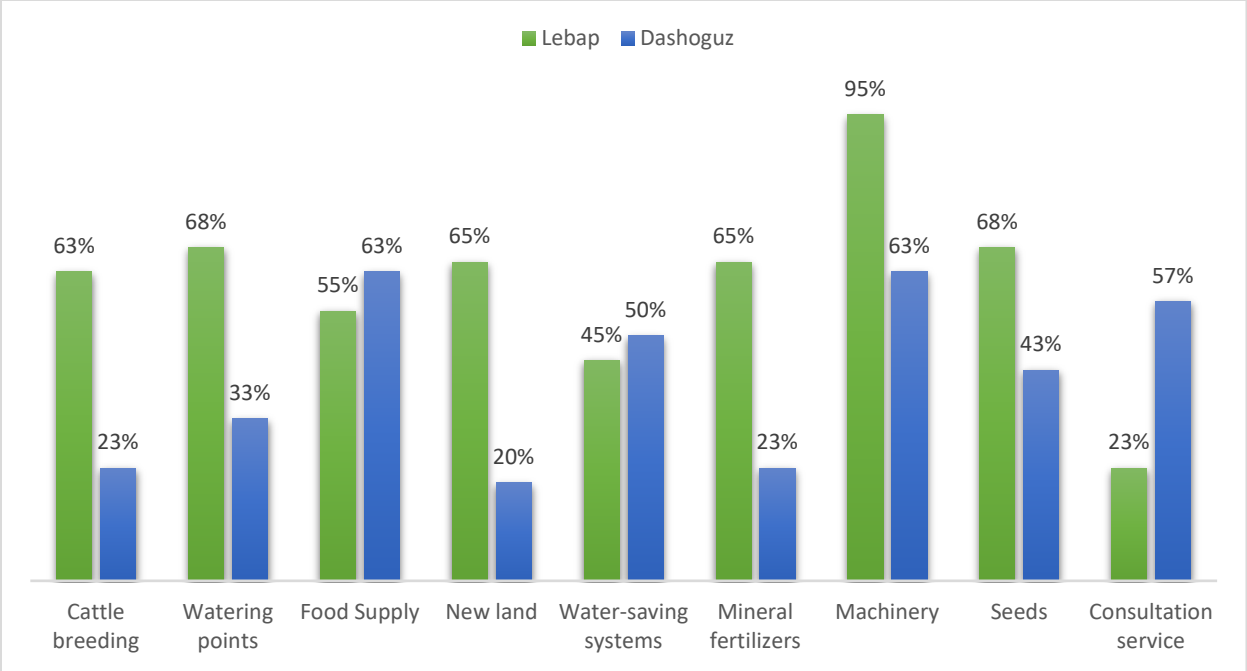


Figure 3. Diagram demonstrating potential loan targets, expressed by NRU in Lebap and Dashoguz in Q27

Based on the analysis of potential targets for receiving a loan, it is evident that Dashoguz is highly interested to receive loans for machinery, creation of food supply for their cattle and receive more consultation services on planning properly their business. Lebap is also highly interested to use loan for purchasing new machinery, but also is interested to purchase seeds and mineral fertilizers, explore new land and increase cattle breeding and construction of watering points. Water-saving systems are of potential interest for both velayats, but in comparison to other choices are not an urgent matter.

Social status and gender:

Regarding gender differences, women were also more eager to elaborate on *different gender roles in land and water management* (Q29), while general trend of current survey indicated that laborious agricultural practices eliminated drastic gender differences (up to 50% of respondents of both genders suggesting this). At the same it should be noted that women were more likely to choose or prioritize gender-focused seminars over the natural resources’ management topics in Q32 even if they indicated that the role of women and men was similar in the previous question.

Government representatives

This section of the Questionnaire was developed for **state authorities** in order to establish the baseline of their knowledge in integrated resources management and water negotiations and other relevant topics.

The Questionnaire was sent via official channels to a number of state agencies and their subordinate offices in Lebap and Dashoguz.

1. The Ministry of Agriculture and Environment Protection of Turkmenistan and its sub-division agencies and bodies
2. State Committee of Water Resources and its sub-division agencies and bodies
 - a. State nature reserves
3. The Ministry of Construction and Architecture of Turkmenistan

There were 32 answers received from various respondents within this focus group. The answers of the survey were summarized in the table below (see Table 2.1):

Table 2.1. Questionnaire responses of State Authorities of Lebap and Dashoguz

N	Survey Questions and Answers	Q-ty	%
1.	Please indicate your gender	32	
	Male	29	90.63%
	Female	3	9.38%
2.	What is your age group	32	
	23-35	3	9.38%
	36-55	20	62.50%
	56 and older	9	28.13%
3.	Please, indicate your educational level:		
	Middle education		0.00%
	College education	3	9.38%
	Unfinished high education		0.00%
	Higher education	29	90.63%
4.	Please, indicate your employment status:		
	State employee	24	75.00%
	Employee	7	21.88%
	Entrepreneur		0.00%
	Temporarily unemployed		0.00%
	Unemployed (household)	1	3.13%
5.	Where do you mostly live?		
	City	28	87.50%
	Village	4	12.50%
	Other		0.00%
6.	Are you acknowledged with the following concepts?		
	Biodiversity	26	81.25%
	Protected areas	29	90.63%
	Ecosystem services	22	68.75%
	Environment flow	22	68.75%

	Land degradation	27	84.38%
	Land Degradation Neutrality	16	50.00%
	Climate Change	26	81.25%
7.	From which sources did you get the information about concepts in Q6?		
	Mass media (newspapers, magazines, TV, etc.)	27	84.38%
	International projects	23	71.88%
	Books, scientific articles	26	81.25%
	Professional knowledge	26	81.25%
	Internet	26	81.25%
	Conferences, workshops, trainings	29	90.63%
8.	Have you participated in any trainings and workshops before (connected to desertification, water use, biodiversity, etc.)?		
	YES	25	78.13%
	NO	7	21.88%
9.	In your opinion, does the biodiversity directly affect the following (choose as many as apply):		
	Status of surrounding environment	29	90.63%
	Education	23	71.88%
	Economics	23	71.88%
	Your welfare	24	75.00%
	Health of people	26	81.25%
	Cultural attributes	23	71.88%
	Other	1	3.13%
	Answer: affects global process of climate change;		
10.	In your opinion, how is it crucial to preserve biodiversity, ecosystems and ecosystem services for the development of our country and your region in particular?		
	Very important	29	90.63%
	Important	2	6.25%
	Somewhat important	1	3.13%
	Not important		0.00%
11.	Lake, wetland and coastal ecosystems of the Amu Darya are very important for:		
	Conservation of globally significant biodiversity	28	87.50%
	Sustainable well-being of the local population	26	81.25%
	Preservation of landscapes	28	87.50%
	Water resources	30	93.75%
	Resilience to climate change	27	84.38%
	Preventing land degradation	23	71.88%
	Other (specify)	1	3.13%
	Answer: Economic status of the country;		

12.	In your opinion, what might be the cause for a decline in natural resources?	
	Insufficient water resources supply	27 84.38%
	Land degradation	27 84.38%
	Climate change	29 90.63%
	Hazardous natural disasters (droughts, floods, mudflows, etc.)	27 84.38%
	Aspects of economic/ industrial development	18 56.25%
	Human factor (anthropogenic stress, poaching)	24 75.00%
	Other	7 21.88%
	Answer: indifference of authorities and local population (in terms of consequences of their actions). Pollution of water resources. Improper management.	
13.	In your opinion, how crucial it is to leave environmental flow in the river, necessary for biodiversity?	
	Very important	24 75.00%
	Important	6 18.75%
	Somewhat important	2 6.25%
	Not important	0.00%
14.	How important is the water quality management and its conservation on the regional scale?	
	Very important	24 75.00%
	Important	6 18.75%
	Somewhat important	2 6.25%
	Not important	0.00%
15.	In your opinion is the regional cooperation effective in solving issues of the Aral Sea crisis?	
	Yes	31 96.88%
	No	0.00%
	Other	1 3.13%
	Answer: it is important to have decision made by Heads of States in CA.	
16.	In your opinion, should biodiversity conservation activities be undertaken by a responsible organization (Ministry of Agriculture) or should cooperation with other organizations and stakeholders be required?	
	Only the Ministry of Agriculture and Environmental Protection (MAEP)	4 12.50%
	Interaction is required	24 75.00%
	It is crucial to create a special agency	4 12.50%
17.	Which government agencies and other stakeholders need to work together to address biodiversity issues?	
	State Committee for Water Management	30 93.75%
	Land Resources Service of MAEP	26 81.25%
	Forest management of MAEP	30 93.75%
	Academy of Sciences	29 90.63%
	Universities	26 81.25%
	Local population	28 87.50%

	Other (Please, indicate below)	7	21.88%
	Answer: Decision-makers (President and Parliament/ Mejlis), security ministries, international organizations, mass media (3), Ministry of Education (2), Ministry of Sport and Youth Policy, State Agency of Fishery Protection and Bioresources Control, State Agency on Risks Protection under the Ministry of Finance and Economy, NGOs (2), local authorities (7), State nature reserves, Youth Union, Nature Protection Agency, border patrol, cooperation with international organizations (UNESCO, UNDP, WWF etc.).		
18.	From what sources do you get information on issues related to environmental protection?		
	Media (newspapers, magazines, television, radio, etc.)	28	87.50%
	International projects	28	87.50%
	Books, scientific articles	28	87.50%
	Internet	28	87.50%
	Conferences, seminars, trainings	30	93.75%
	Other (specify)		0.00%
	Answer:		
19.	At what levels is it necessary to solve important issues related to environmental protection in the Aral Sea basin?		
	Internationally	6	18.75%
	At the regional level (Central Asia)	4	12.50%
	At the national level	2	6.25%
	At the local level	0	0.00%
	At all above-mentioned levels	25	78.13%
20.	Do you know about the International Fund for the Saving of the Aral Sea (IFAS)? Please mark your level of knowledge in the appropriate columns below: <i>Yes (1), No (0), Insufficient (0.50)</i>		
1	Goals and objectives of the Executive Committee of IFAS (EC IFAS)	21	65.63%
2	Goals and objectives of the Interstate Commission on Sustainable Development (ICSD IFAS)	17.5	54.69%
3	Goals and objectives of the Interstate Commission for Water Coordination (ICWC IFAS)	18	56.25%
4	Goals and objectives of the Aral Sea Basin Program (ASBP)	17.5	54.69%
5	Goals and objectives of the Regional Environmental Program for Sustainable Development in Central Asia (REP4SD)	15	46.88%
21.	Based on your experience, what tasks of IFAS need to be improved for full-fledged international cooperation of the countries in the Aral Sea basin? Check the necessary:		
	Negotiation process	21	65.63%
	Approval of water withdrawal limits	16	50.00%
	Data exchange	21	65.63%
	Regional project activities	20	62.50%
	Difficult to answer	18	56.25%
	Other (specify)	3	9.38%

	Answer: attract knowledgeable experts at the country and regional levels. Partnership with international organizations. Better cooperation with international organizations. Participation in international projects.		
22.	In your opinion, does the policy of transboundary water allocation (within the framework of ICWC IFAS) correspond to the realities of today, taking into account climate change?		
	YES	18	56.25%
	NO	6	18.75%
	Were unable to answer	8	25.00%
23.	Based on your experience, is there a difference in the roles of men and women in the use of natural and water resources? Please describe briefly below:		
	YES	15	46.88%
	NO	12	37.50%
	Insignificantly	5	15.63%
24.	In your opinion, how important is the equal participation of women in political and negotiation processes related to water and environmental protection?		
	Very important	12	37.50%
	Important	15	46.88%
	Partly important	5	15.63%
	Not important		0.00%
25.	What actions need to be taken to obtain the best results in addressing internationally issues related to biodiversity conservation, implementation of an integrated approach to water resources management and climate-smart land use?		
	Build the capacity of environmental decision-makers	29	90.63%
	Organize data exchange at the regional level	25	78.13%
	Organize a dialogue with all stakeholders	29	90.63%
	Other (please specify)	1	3.13%
	Answer: joining forces to maintain stable management.		
26.	Would you like to know more about the following topics yourself? Indicate the priority level in the table below:		
	Conservation of biodiversity and ecosystems	28.5	89.06%
	Management of nature reserves	32	100.00%
	Land degradation and Land Degradation Neutrality	27	84.38%
	Water saving technologies	26.5	82.81%
	Integrated natural resource management	27.75	86.72%
	Gender issues	23	71.88%
	Water diplomacy	23.75	74.22%
	Other Topics:	1	3.13%
	Answer: climate change and its impact on biodiversity.		

Discussion of the results

Components 1 and 2: Biodiversity Preservation

According to the survey results, respondents were well aware of the *biodiversity* concept and its effect on the *status of surrounding environment (91%)* and *health of people (81%)*, and collectively agreed that it is *important to preserve*

biodiversity for the sake of country development (91% in Q10). With this, the *environment flow* was collectively agreed to be a necessary condition for biodiversity (cumulatively equaling up to 94% in Q13). When the analysis went deeper into understanding the importance of coastal ecosystems of Amu Darya for certain processes in Q11, biodiversity was immediately matched with *water resources* receiving 94% of votes (as opposed to *land degradation*, receiving the least of votes with 72%).

Regarding the *management of biodiversity at the state level*, it was agreed by 75% that *interaction of stakeholders* is the key to a successful biodiversity conservation. A number of international and local agencies and organizations were listed as potential collaborators relevant to this issue (see answers under Q17).

Component 1: Land Degradation Neutrality

From the Q6 it became evident that representatives of local government are well aware of all the listed environment-related concepts, with the *land degradation neutrality* concept receiving only half responses (50%).

Components 1, 2 and 3: Water Resources and IFAS

The majority of respondents agreed that *water quality management* and its *conservation* is important at the regional scale (constituting two answers of “very important” and “important” with 94%). While, regional cooperation was mentioned to be an effective tool in managing this issue (97%).

Continuing the thought there were several questions asked addressing regional cooperation in environment issues and water allocation within the Aral Sea basin. The *multi-level diplomacy* was mentioned by all respondents as the basis for the implementation of environment protection activities in the basin (with 78% in Q19). Of the listed political instruments aiming to manage the implementation of these activities, only 66% of all respondents were aware of EC IFAS with other instruments and programs receiving less percentage. Transboundary allocation of water resources was agreed by 56% to be an effective tool of sharing water with regards to modern climate challenges.

Questions for the general public

Survey Questions and Answers

This section of the Questionnaire was developed for a **broader list of respondents including NGOs, representatives of academia and youth groups, women groups and mass media representatives** in order to establish a baseline of general knowledge in integrated resources management and other relevant topics among the civil society.

The Questionnaire was distributed among respective sub-groups indicated in **Annex 1** and **Annex 2**. There were 59 answers received from various respondents according to the following sub-group categories:

No	Sub-group category	# of respondents
1	Public (non-governmental) organizations	10
2	Mass Media	5
3	Academia	29
4	Youth	5

The answers of the survey were summarized in the table below (see **Table 3.1**):

Table 3.1. Questionnaire responses of General Public of Lebap and Dashoguz

N	Survey Questions and Answers	Q-ty	%
1.	Please indicate your gender	59	
	Male	32	54.24%
	Female	27	45.76%
2.	What is your age group	59	
	17-22	8	13.56%
	23-35	16	27.12%
	36-55	21	35.59%

56 and older	14	23.73%
3. Please, indicate your educational level:		
Unfinished middle education		0.00%
Middle education	1	1.69%
College education	12	20.34%
Unfinished high education	1	1.69%
Higher education (professional)	45	76.27%
4. Please, indicate your employment status:		
State employee	28	47.46%
Employee	26	44.07%
Entrepreneur	16	27.12%
Temporarily unemployed	1	1.69%
Household		0.00%
5. Where do you mostly live?		
City	53	89.83%
Village	6	10.17%
Other		0.00%
6. What is the area of your professional activity?		
Answer: law (2), agriculture (6), gender, technology (4), outdoor activities, environmental education (4), ecology (10), agricultural knowledge (2), social services for vulnerable groups (2), international and regional cooperation in environment (2), climate change (5), sustainable development (2), international relations, education, journalism (2), social services, teaching, water resources (3), land resources (2), systems analysis, flora of mountains and deserts, forestry (5), geography, environment protection (3), village development, land degradation, civil society, logistics		
7. Who is the main focus group of your professional activity?		
State authorities	32	54.24%
Private sector	21	35.59%
Women groups	19	32.20%
Vulnerable groups of society	22	37.29%
Youth groups	22	37.29%
Other groups	16	27.12%
Answer: international private companies; international and regional organizations; scientific community; agricultural community (2); all groups of society.		
8. Are you acknowledged with the following concepts?		
Biodiversity	44	74.58%
Protected areas	40	67.80%
Ecosystem services	36	61.02%
Ecological flow	28	47.46%
Land degradation	45	76.27%
Land Degradation Neutrality	27	45.76%
Climate Change	47	79.66%

9. From which sources did you get the information about concepts in Q8?		
Mass media (newspapers, magazines, TV, etc.)	28	47.46%
International projects	30	50.85%
Books, scientific articles	26	44.07%
Professional knowledge	41	69.49%
Internet	31	52.54%
Conferences, workshops, trainings	34	57.63%
10. Have you participated in any trainings and workshops dedicated to environment protection?		
YES	44	74.58%
NO	15	25.42%
11. In your opinion, does the biodiversity directly affect the following (choose as many as apply):		
Status of surrounding environment	46	77.97%
Regional economic status	41	69.49%
Your welfare	31	52.54%
Health of people	39	66.10%
Other	15	25.42%
Answer: soil condition, ecology, food chain of wild animals, socio-economic status of local communities, increases climate change (3)		
12. In your opinion, how is it crucial to preserve biodiversity, ecosystems and ecosystem services for the development of our country and your region in particular?		
Very important	37	62.71%
Important	19	32.20%
Somewhat important	2	3.39%
Not important		0.00%
13. In your opinion, what might be the cause for a decline in natural resources?		
Insufficient water resources supply	34	57.63%
Economic development	34	57.63%
Land degradation	34	57.63%
Climate change	39	66.10%
Hazardous natural disasters (droughts, floods, mudflows, etc.)	34	57.63%
Anthropogenic stress	44	74.58%
Other	15	25.42%
Answer: Insufficient awareness level of land users (2); irrational use of land and water resources; insufficient capacity of policy makers in developing strategies and policies, which leads to all above-mentioned problems; lack of differentiated payments for water and land use, inadequate accounting and reporting on the use of resources.		
14. Do you know what the Land Degradation Neutrality (0.50) is and do you have experience working in this field (0.50)?		
Answer: have no experience, but have general understanding	12	20.34%

15.	In your opinion, what the integrated management of natural resources is (of biodiversity, water, land and forest resources)?		
	Answer: rational use of natural resources where user receives benefits by minimizing its impact on the nature (2); integrated management of all resources within the water basin (5). Enabling participation of all stakeholder groups in decision-making process (7). Introduction of new technologies. Use of natural resources. Complex resources management as a system. Integrating all tools in the natural management including managing, organizational, institutional, legal, technical and other aspects. When all stakeholders coordinate their actions and follow unified strategy.	38	64.41%
16.	In your opinion, what actions need to be taken to implement integrated management of natural resources (biodiversity, water, land and forest resources)?		
	Government initiative	42	71.19%
	Application of resource-saving technologies	36	61.02%
	Public awareness	39	66.10%
	Economic support for farmers (benefits, government lending, micro-lending)	36	61.02%
	Other (specify)	17	28.81%
	Answer: improvement of intersectoral coordination of ministries and better integration of civil society in the processes of governance (2); creation of information resource for NRM, creation of in-kind fund, creation of volunteers group for eco action (+youth and children). Improvement of interstate coordination. Improvement of legal base, integration in development plans. We need to start from developing young expert potential. Good financial support from government. Establishment of working groups with relevant ministry and agency reps. Capacity building with global knowledge. Socio-economic analysis and promotion of collective approaches in natural resource management. This has to enable all listed items synchronized.		
17.	Which of the following measures do you believe might be effective in your area/region to fight against the decline of natural resources?		
	Strengthen cooperation with Uzbekistan	29	49.15%
	Improve the water resources management	39	66.10%
	Improve the pasture management	33	55.93%
	Capacity and knowledge building in natural resources management	41	69.49%
	Other	19	32.20%
	Answer: set cameras in mountain areas to stop poaching and wildfires, monitor wild animals population. Work with ecological knowledge of an average person (4). Strengthen cooperation with all republics of CA (2). Invite experts and maintain intra-sectoral dialogues. Strengthen desertification measures on the basis on National Plan including financial support from Government. Improve agricultural management. Increase awareness raising of prospects for resources use. Impose limitation on trash dumping. Transfer to IWRM practices, develop free market principles, privatization of land.		
18.	At what levels is it necessary to solve important issues related to environmental protection in the Aral Sea basin?		
	Internationally	35	59.32%
	At the regional level (Central Asia)	39	66.10%
	At the national level	31	52.54%
	At the local level	28	47.46%

19.	What kind of measures is it necessary to undertake in order to increase the application of new technologies in agriculture?		
	Knowledge (access to information about these technologies)	42	71.19%
	Engaging more labor	19	32.20%
	Personal financial investment	15	25.42%
	Financial loan	23	38.98%
	International funds	30	50.85%
	State support / Support of local authorities (loans, subsidies, etc.)	41	69.49%
	Other (please indicate)	16	27.12%
	Answer: experience exchange with counterparts (2), trainings. Private ownership of land plots (2). Better communication. Pilot projects on privatized land plots. Huge investment in agricultural sector. Develop free market principles, privatization of land.		
20.	Based on your experience, do farmers need financial support (i.e. subsidies) to improve the productivity of their land?		
	YES, they will need outside financial support	40	67.80%
	NO, they will invest my own funds	11	18.64%
	Not sure	17	28.81%
21.	In your opinion, what may prevent farmers from obtaining bank subsidies / loans?		
	They do not know about lending	23	38.98%
	Banks have a high interest on lending	18	30.51%
	Banks have high collateral requirements	23	38.98%
	Farmers find it difficult to fill out bank documents	22	37.29%
	They are not interested in lending	14	23.73%
	Not sure	24	40.68%
	Other (specify)	20	33.90%
	Answer: they don't have enough knowledge on starting own agribusiness. External lending might exercise their own interests. The bank procedures and lending are difficult (2). Corruption (2). Farmers cannot sell produce according to market price. Centralized and complicated system of management (2). Uncertainty at every stage of making agribusiness + non-transparent financial obligations. Credit lines for farmers have to waive annual interest. Nothing prevents them from lending. We need to conduct a SWOT analysis in order to understand how many of farmers there are in the country.		
22.	In your opinion, should biodiversity conservation activities be carried out by a responsible organization (Ministry of Agriculture) or is it necessary to interact with other organizations and stakeholders?		
	Only the Ministry of Agriculture and Environmental Protection (Ministry of Agriculture)	14	23.73%
	Cooperation is required	40	67.80%
	It is advisable to create a special body	17	28.81%
23.	Which government agencies and other stakeholders need to work together to address biodiversity issues?		
	State Committee for Water Management	43	72.88%
	Land Resources Service of MAEP	40	67.80%

	Forest management of MAEP	41	69.49%
	Academy of Sciences	40	67.80%
	Universities	36	61.02%
	Local population	43	72.88%
	Other (Please, indicate below)	21	35.59%
	Answer: Local authorities hyakimliks+gengeshes (3), NGOs (5), nature reserves (2), schools (2), kindergardens, volunteers, international organizations (2), Society of Hunters and Fishermen, Cabinet of Ministers, IPBES, at all levels of integration including regional and international, business companies including analytical agencies and consulting services, media, Parliament, international nature protection agencies, Union of Entrepreneurs and Industrialists, industry representatives (oil and gas).		
24.	According to your assessment what is the average level of awareness of <u>people in your surrounding</u> (with whom you work) regarding the management of natural resources and protected areas?		
	Very high	11	18.64%
	High	19	32.20%
	Satisfactory	24	40.68%
	Low	18	30.51%
	Unable to assess	16	27.12%
25.	In your opinion, how well are <u>NGOs</u> informed about the questions of environment protection?		
	Very high		0.00%
	High	13	22.03%
	Satisfactory	36	61.02%
	Low	16	27.12%
	Unable to assess	13	22.03%
26.	In your opinion, how well are <u>representatives of mass media</u> informed about the questions of environment protection?		
	Very high	13	22.03%
	High	15	25.42%
	Satisfactory	32	54.24%
	Low	14	23.73%
	Unable to assess	13	22.03%
27.	How do you assess the <u>role</u> of representatives of mass media solving the issues of environment protection?		
	Very important	21	35.59%
	Important	28	47.46%
	Somewhat important	12	20.34%
	Not important	12	20.34%
28.	What kind of radio/TV programs, newspapers, journals etc. dedicated to environment protection do you regularly watch/read? Please, indicate below		
	TV: films and TV-programs dedicated to ecology(12), news (5)	25	42.37%
	Newspaper: "Neutral Turkmenistan" (7), "Bereketli Toprak"	16	27.12%

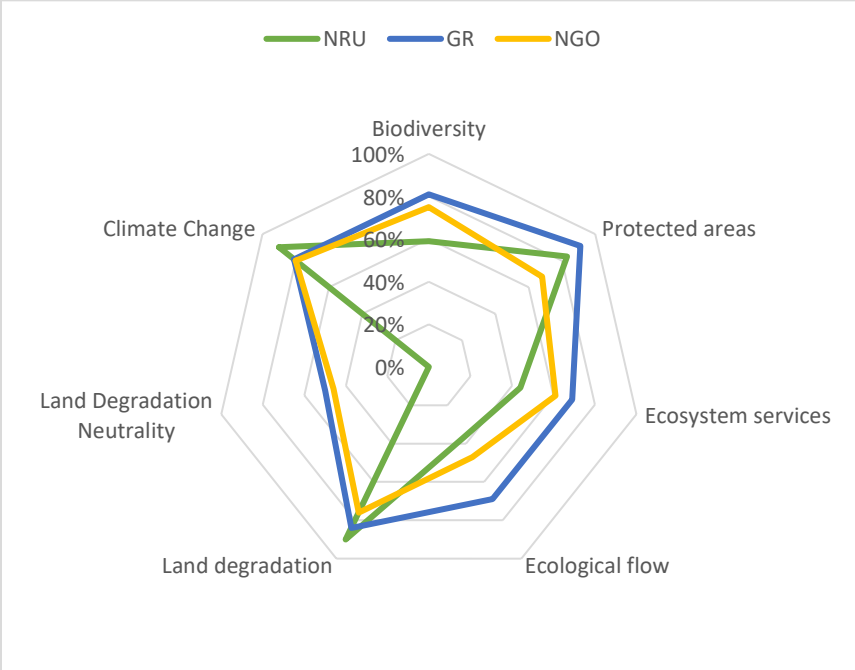
	Journal: Journal "Ecology" (2), Journal "Rysgal", Journal "Science and Life" (2), National Geographic (2), Journal "Ecological Culture and Nature Protection" (11), Problems of Desert Development (13), Journal "Science and technology of Turkmenistan" (2), Journal "Taze oba/ New village" (3), "Karakum"	29	49.15%
	Other: internet (10), programmes [RPN, CAMP4ASB], seminars, academic dissertations, UNEP/IUCN/UNCCD reports, NDC report	21	35.59%
29.	From your experience, how different is the role of women and men in land and water resources management?		
	<p>Answer of men: Women are not interested because agriculture is too heavy with problems of water scarcity and sharp continental climate. It is important to involve women at all levels of water and land management. Usually men are involved in land and water management, while women have secondary roles. In scientific-research institutions the role of gender is equal, while in Farmer Associations the role of men is more important. There is no difference, the role is equal (6). There is a slight difference in the role of women and men in land use management (4). Women play a key role in preservation of traditional knowledge in natural resources management and inspire us to act. There is a drastic difference of roles. Due to the established traditions, the role of women in the management of natural and water resources is determined only by everyday use, that is, at the lowest level, they cannot rise higher. There is a significant majority of men playing important role in managing natural resources than of women. The role of a woman is very different. Although women play an invaluable role in certain phases of our work, such as harvesting crops like cotton, weighing or feeding during cotton or wheat harvests, the administrative part and all the official routine are performed by men. Unfortunately, the irrigation period is physically very difficult and sometimes it is necessary to stay in the field for weeks in dire conditions. Women in my surrounding are not involved in water/land management issues.</p>		
	<p>Answer of women: there is a high eagerness of women to participate equally, but the role is drastically different. Considering the local mentality the interplay between genders is balanced. The role is equally important and valuable. The responsibility is equal as for women have to rationally use water for households, while men have to do the same for agricultural watering. The question is related to equal educational opportunity and hence professional competencies of women (3), while the role of women in NRM is important. The percentage of men regulating NR is greater than of women. Women have high potential in building sustainable development, but the difference is visible especially in vulnerable regions. The roles are equal. The role is not important. Gender differences do not play crucial role in land and water management as men and women perform equal work; in my opinion gender issues are more relevant to human nature.</p>		
30.	In your opinion, how important is the equal participation of women in communal and administrative questions of nature and water resources management?		
	Very important	22	37.29%
	Important	22	37.29%
	Somewhat important	16	27.12%
	Not important	13	22.03%
31.	Would you like to know more about the following topics yourself? Indicate the priority level in the table below:		
	Conservation of biodiversity and ecosystems	43	72.88%
	Management of natural protected areas	38	64.41%
	Land degradation and Land Degradation Neutrality	41	69.49%
	Water saving technologies	52	88.14%

Integrated natural resource management	42.25	71.61%
Gender	32.25	54.66%
Water diplomacy	45.5	77.12%
Other Topics:	19	32.20%
<p>Answer: Legal aspects of all indicated topics. Wild animal population and poaching prevention. The quality of presenter of these topics is important. GIS technology application in sustainable nature resources management. Development of methods of rational use and protection of biological resources of Turkmenistan (2). Forest renovation and bioecology of arboreal plants (2). Sustainable Development. Development of methods of rational use and research of biological resources of Turkmenistan. Socio-economic situation of farmers. Waste management (toxic waste); Natural risk and disaster reduction. Alternative ways of [Agri]-financing.</p>		

A. Discussion of Results

Components 1 and 2: Biodiversity Preservation

Representatives of the civil society (NGO) group demonstrated sufficient level of understanding of environmental concepts, which roughly duplicated the general knowledge trend observed within the government representatives’ (GR) group before (see Fig.4):



The results of this diagram demonstrated similar topics of *Land Degradation Neutrality* (with 45%) and *Ecological Flow* (with 47%) that respondents were not well aware with.

Respondents agreed that the presence of biodiversity directly affects the status of surrounding environment (78%), regional economic status (69%) and peoples’ health (66%), while it is crucial (63%) to preserve biodiversity for the country development. At the same time, civil society representatives were eager to mention that anthropogenic stress (75%) and climate change (66%) are among those factors causing a decline of natural resources. Among the measures that could improve declined natural resources respondents chose capacity and knowledge building in natural resources management (with 69%) and improvement of water resources management (with 56%) in Q17.

Figure 4. Diagram comparing answers of Natural Resource Users (NRU), Government Representatives (GR) and Civil Society (NGO) groups of respondents with regards to their knowledge of environmental concepts

In Q16 respondents were asked to elaborate on the specific actions that need to be undertaken in to order implement integrated management of natural resources. Majority of those chose *government initiative* that needs to lead this process (with 71%) and *public awareness* seizing the momentum (66%). Respondents chose *cooperation* (with 68% in Q23) that need to be established between the Ministry of Agriculture and Environment Protection and

relevant agencies in order to successfully preserve the biodiversity. In Q18 asking them to indicate the level of solving the Aral Sea Basin issues, they prioritized *regional level* with 66%.

Component 1: Land Degradation Neutrality

The question with Land Degradation Neutrality (LDN) was delivered twice during this survey. Marked among the general concepts in Q8, LDN received 46% of votes from respondents who claimed *to know* about this concept. However, when later asked to elaborate more on LDN, only 20% of respondents could *roughly describe LDN and/or claim to have experience in this field*. Those respondents that were unable to describe what the LDN was (Q14) were quite eager to choose it among their top priority topics for potential seminar interest (Q31).

Component on Micro-schemes:

In order to understand the position of civil society towards micro-scheme policy we asked them several questions in this regard. Respondents marked *knowledge inaccessibility (about new technologies)* and *absence of government support* towards the introduction of measures that might increase the application of new technologies in agriculture (71% and 69% respectively in Q19). This was further reiterated to be the *absence of financial support (including subsidies)* that farmers need to have in order to improve the productivity of their lands (68%). However, majority of respondents were *unable to say* what exactly keeps farmers from obtaining bank subsidies and loans (with 41%), and equally marking *absence of knowledge about lending and high collateral requirements of banks* (39% each) as potential reasons for this.

Component 3 on Awareness Raising:

The survey for NGOs asked respondents to rate the awareness level of their co-workers and other civil society groups in the questions of natural resources management, for which they frequently choose *satisfactory level* (61% in Q25). Regarding media in Q26, 54% of respondents chose a *satisfactory level of knowledge of NRM practices* (along with media representatives themselves), while pointing out that *role of media is important* (47%).

Among the sources of building the knowledge capacities of civil society they listed *acquired professional knowledge* (with 69% in Q9) and *participation at conferences and workshops* (58%).

The following diagram offers a rough comparison of focus areas preferred among the three groups of respondents as a part of their capacity building activity (see Fig.5 below):

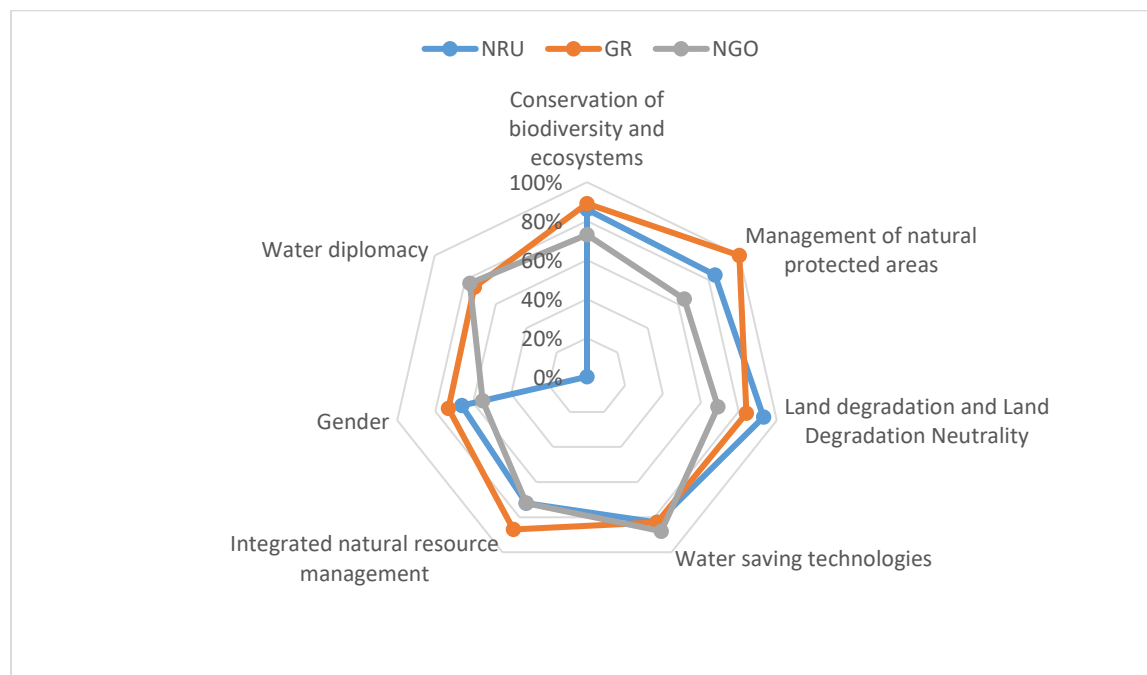


Figure 5. Diagram comparing answers of Natural Resource Users (NRU), Government Representatives (GR) and Civil Society (NGO) groups of respondents with regards to their expectations of proposed seminar’s topics (NRU group did not have question on water diplomacy and hence received 0% in this diagram)

Questions for Financial institutions

Survey Questions and Answers

The goal of this section of the Questionnaire was to assess possible options for a partnership with local (micro) financing institutions in order to set-up a supporting micro-scheme under the UNDP-GEF Project, to increase farmers' access to financing Sustainable Land Management (SLM) and Land Degradation Neutrality (LDN) compliant practices.

The UNDP /GEF project aims at setting up a micro-scheme to support medium and small-scale farmers applying sustainable land management measure that will increase soil productivity and improve pasturelands condition, and will not have an adverse effect on the environment. In more detail, a financial product (soft loan or a micro-credit line) with low interest rate, more flexible collateral requirements and longer repayment period was researched.

The questionnaire for banks and financial institutions was distributed via official channels (*UNDP Verbal Note 410 dated 07.16.2020*) to the following banks:

1. State Commercial bank "Dayhanbank"
2. State Commercial bank "Turkmenbashi"
3. State Commercial bank "Turkmenistan"
4. State Commercial bank "Halkbank"
5. Joint-stock Commercial bank "Senagat"
6. Joint-stock Commercial bank "Rysgal"

State Banks

Concerning the promotion of the sustainable agricultural practices, proper land and water management in agribusiness sector of Turkmenistan, Aral PPG set a target to conduct a short survey of banks and financial institutions by analyzing existing opportunities for small and medium-size farmers.

Each participating national bank had their own credit line and credit payment terms voiced and, hence, it was not possible to compare all of the answers in a single survey analysis scheme. Therefore, a different approach was chosen for this sector. The questionnaire with specific loan-concerning answers is indicated below in **Table 4.1**.

Table 4.1. Existing micro-schemes for agriculture offered by local banks of Turkmenistan (the analysis is based on desk-study research and results of survey)

N	Survey Q&A	Dayhanbank	Turkmenbashi	Turkmenistan	Halkbank	Senagat	Rysgal
1.	Do you give loans to smallholders?	YES	YES	NO	YES	YES	YES
2.	Lending to private entities (PE) and corporate entities (CE)	• PE and CE	• PE and CE	• PE and CE	• PE and CE	• PE and CE • Entrepreneur without CE	• CE
3.	What are the conditions on receiving such a loan (with the focus to agriculture)?	<p>Loan for up to 3 years with 10% interest rate for up to 30,000 manats (in non-cash form) for agricultural and livestock purposes (grace period 6 months).¹²⁴</p> <p>Loan for up to 1 year with 10% interest (grace period 2 months)</p> <p>Loan for up to 10 years with 5% of interest rate.</p> <p>Seasonal loan for 2% for purchase and growth of agro-products.</p>	<p>Smallholders can receive a loan for up to 10 years with 5% of interest rate for the total of the proprietary security cost. If the proprietary security is small (i.e. ~30,000 manats) then it can pass only bank check or <i>Turkmen Baha</i> check.¹²⁵</p>	<p>Loan for individuals (no farmer-specific loan):</p> <p>Loan for current assets for up to 1 year with 1%-10% interest</p> <p>Loan for fixed assets for up to 10 years with up to 1%-10% interest rate.</p>	<p>Smallholders can receive loan for up to 3 years with 10% of interest rate for up to 30,000 manats.</p> <p>Smallholders can receive a loan for up to 10 years with 5% of interest rate for the total of the proprietary security cost.¹²⁶ The loan applies to production and processing of agro-products, development of poultry and cattle, purchase of fixed assets.</p>	<p>Smallholders can receive a loan for up to 10 years with 5% of interest rate for the total of the proprietary security cost.¹²⁷ The loan applies to production and processing of agri-products, development of poultry and cattle, purchase of fixed assets.</p>	<p>Corporate entities can receive a loan for up to 10 years with 5% of interest rate for the total of the proprietary security cost.</p> <p>If offers more credit line options for various industrial/business purposes.</p>

¹²⁴ The documents required for borrowing are listed on the website of Dayhan Bank <https://www.dayhanbank.gov.tm/services/fiz/credits/resminama.php>

¹²⁵ If loan is up to 1 million manats then it needs to get approval via The Ministry of Internal Affairs. Precisely, the borrower will pass the checking with the Criminal Department of MIA.

¹²⁶ The difference of lending schemes between *Turkmenbashi*, *Senagat* and *Rysgal* bank might be only seen in the list of documents that need to be submitted for the loan issuance. The 5% and 1% interest rate are similar because they were officially established via the Central Bank regulation as per the President's Decree No 12446.

¹²⁷ The difference of lending schemes between *Turkmenbashi*, *Senagat* and *Rysgal* bank might be only seen in the list of documents that need to be submitted for the loan issuance. The 5% and 1% interest rate are similar because they were officially established via the Central Bank regulation as per the President's Decree No 12446.

4.	Do you have special terms for farmers applying new technological instruments?	Yes. The special terms for smallholders to buy machinery, water-saving technology, pipes etc. is supported with 1% interest rate for up to 10 years.	Yes. The special terms for smallholders to buy machinery, water-saving technology, pipes etc. is supported with 1% interest rate for up to 10 years.	Yes. Smallholders might use personal loan for 1-3 years with 1%-15% interest rate per year.	Yes. The special terms for smallholders to buy machinery, water-saving technology, pipes etc. is supported with 1% interest rate for up to 10 years.	Yes. The special terms for smallholders to buy machinery, water-saving technology, pipes etc. is supported with 1% interest rate for up to 10 years.	Yes. The special terms for smallholders as a microcredit is supported with 10% interest rate for up to 3 years (30 000 manats).
5.	Do you offer special lending for women farmers?	No, any private entity can receive loan for up to 3 years with 16% interest rate (grace period up to 2 months)	No, any private entity can receive loan for up to 2 years with 14% interest rate	No specific gender prioritization policy.	No, any private entity can receive loan for up to 3 years with 16% interest rate (grace period up to 2 months)	No specific gender prioritization policy.	No specific gender prioritization policy.
6.	Is the bank interested to sign MOU with UNDP?	Not sure (Bank is listed in the 2 nd category)	Not sure (bank is unable to establish partnership with UNDP or conclude MoU)	No	YES (while bank is not sure if they can establish partnership with UNDP and not sure if they can keep est. micro-scheme after project end)	YES (while bank is not sure if they can establish partnership with UNDP)	YES (while bank cannot establish partnership with UNDP)
7.	In what capacity can you work with UNDP?	Generally, the loan needs to be secured by third-party, but bank is not sure whether UNDP can be this third-party.	As a third-party guarantor to borrower in repaying annual interest.	Not sure about the cooperation.	Potentially as third party		Not sure about the cooperation.
8.	Is bank interested to keep the micro-credit after project completion?	Not sure	YES	YES	Not sure	YES	YES

9.	Do you have branch offices that operate in piloting velayats/districts?	<u>Lebap:</u> Darganata, Deynau <u>Dashoguz:</u> Turkmenbashi, Ruhabelent	<u>Lebap:</u> Seydi, Turkmenabat, Garly, Gazojak <u>Dashoguz:</u> Dashoguz, Konye-Urgench, Gorogly	<u>Lebap:</u> Turkmenabat city, Kerki city <u>Dashoguz:</u> Dashoguz city	<u>Lebap:</u> Sayat, Kerki, Seydi, Galkynysh, Darganata, Dostluk <u>Dahoguz:</u> Konye-Urgench, Ruhabelent, S.Turkmennbashi	<u>Lebap:</u> Turkmenabat city <u>Dashoguz:</u> Dashoguz city	<u>Lebap:</u> Lebap city <u>Dashoguz:</u> Dashoguz city
10.	Are all creditor documents processed through the branches in velayats?	Creditor documents are processed via central office in Ashgabat and branch offices in velayats.	The borrower applies in velayat' branch offices and his documents go to → Branch Office's Creditor Committee → Ashgabat Creditor Committee for additional assessment.	Creditor documents are processed via central office in Ashgabat and branch offices in velayats.	Creditor documents are processed via central office in Ashgabat and branch offices in velayats.	Yes, creditor documents can be processed via branches in velayats	Creditor documents are processed via branch offices in velayats.

International Banks

During the survey of international banking system in Turkmenistan, several banks were contacted regarding the prospects of cooperation with UNDP in supporting micro-scheme.

Interview #1 with EBRD [June 14, 2020]

The UNDP-promoted initiatives of Agenda 2030 Sustainable Development Goals and “green finance” are of the EBRD interest, as it would help them to navigate the dialogue with national counterparts in Turkmenistan. In general, EBRD was quite open to investments in agribusiness.

However, smallholders were not of primary interest of EBRD. Their investment package starts at 1 million USD and is barely manageable by local medium/large businesses in Turkmenistan. Hence, they are interested to work with local banks as a single tranche that can be then used for small/medium farmers/ farmer associations. However, their latest negotiations with “Rysgal” Bank and “Turkmenbank” Bank regarding this question did not bring any immediate results with some interest lingering on the Turkmen side. Mr. Turkmenoglu pointed out that local banks lack technical capacity and expertise in international auditing, and negotiations regarding EBRD investments are usually very limited/cautious.

EBRD initiated a high-level meeting to discuss the prospects of further investments in Turkmenistan (seeking for the support from the Turkmen Government as guarantor of financial obligations), which raised some interest at the political level. However, further negotiations (with Central Bank of Turkmenistan and the Union of Entrepreneurs and Industrialists) came to a reluctant stage with no technical action supported by the local representatives. Mr. Turkmenoglu reiterated that EBRD is ready to invest in Turkmen economy; however, everything depends on the support of the Turkmen Government to explore the opportunity.

EBRD expressed certain interest in the scheme that UNDP proposed (according to our brief introduction to the micro-scheme). EBRD knows of the high status of UNDP in the country and its valued expertise and work for Turkmenistan. In this regard, EBRD proposed UNDP to become an intermediary party in the negotiation process between the Bank and the Government to further advocate this question. However, it is not clear how long it would take such a scheme to be established [EBRD → local bank → individual farmers] and what the final product would be.

Interview #2: Short conversation with ADB [August 17, 2020]

The Asian Development Bank (ADB) received a call from PPG Communications Expert after failed emailing attempts. It became clear that though ADB has a Senior Economic Officer/ NGO Focal Point that could potentially be interested in cooperation with UNDP in agribusiness support, there was limited interest in diving into this opportunity. ADB reiterated that it follows only bilateral relations with the Turkmen Government and foresees only large-scale investment projects. The investment goes through the Central Bank of Turkmenistan (CBT) and micro-scheme should be further discussed with CBT party. There might be a potential diversification of investment in the future, but this needs to be double-checked in due course of the Aral Sea Project implementation and cannot be finalized at this moment.

Discussion of results

The state politics is supportive to project objectives and promotes economic development as well as application of innovative technology in agriculture. Adopted on June 20 2012 President’ Decree No 12446 “On State Support of Small and Medium-Sized Entrepreneurship” aimed at supporting farmers with lending procedure (with up to 5% of annual rate) for a period of 10 years.¹²⁸ The small and medium farmers and enterprises were also supported by the adopted National Development Plan for 2018-2024 (October 10, 2017) that aimed at stimulating “the emergence of private farmers as primary guarantors of food security.”¹²⁹ This strategic development of agribusiness was then reinforced by a recent adoption of the State Program on Support of Small and Medium Entrepreneurship for 2018-2024 including a plan of relevant activities (March 16, 2018).¹³⁰ The Program aimed at increasing the variety and volumes of agro-products and increasing their value in foreign markets, however EBRD (2019) indicated remaining obstacles for the development of private sector with technical and capacity building among other measures needed for banking sector.¹³¹ The potential reforms with regard to “medium-

¹²⁸ Retrieved from <https://senagatbank.gov.tm/ru/s-business/kreditovanie> (Accessed on August 20, 2020)

¹²⁹ EBRD. (2019). Turkmenistan Diagnostic, p.8. Retrieved from <https://www.ebrd.com/documents/policy/country-diagnostic-paper-turkmenistan.pdf?blobnocache=true> (Accessed on September 2, 2020)

¹³⁰ Retrieved from <http://tdh.gov.tm/news/en/articles.aspx&article11838&cat26> (Accessed on September 4, 2020)

¹³¹ EBRD. (2019). Turkmenistan Diagnostic, p.8. Retrieved from <https://www.ebrd.com/documents/policy/country-diagnostic-paper-turkmenistan.pdf?blobnocache=true> (Accessed on September 2, 2020)

term budgeting, transition to GFSM2001 fiscal data reporting, and a financial regulatory overhaul which would introduce elements of Basel principles into local regulations” were mentioned among the obstacles by the EBRD report (2019:8).

Concerning the Agribusiness development, certain banks (namely, “Rysgal”, “Senagat”, “Turkmenbashi”, and the State Bank for Foreign Economic Activity of Turkmenistan¹³²) operate under the President’s Decree No 942 (October 12, 2018) “*On Financial Support for Agricultural Producers*” offering preferential loans listed in Table 4.1. Common for all banks, participating in the Decree implementation is the lending scheme of 1% and 5% interest rate available for two types of loans (see the Table 4.2 below):

Table 4.2. Loan schemes according to the President’s Decree No 942¹³³

No	Type of loan	Credit value	Interest rate	Timeline
1	For purchase of agricultural machinery, tools and accessories, water-saving technology, equipment, water delivery systems used for irrigation	Up to 30,000 manats	Under 1%	10 years
2	For financing of agricultural investment projects connected with manufacture, storage and processing of agricultural production and performance of agricultural works	Up to 30,000 manats	Under 5%	10 years

With this, there are certain requirements that constraint a borrower from receiving a loan. Bank analysis of the monetary capabilities of the borrower are acknowledged via the analysis of the market price of the property set as the proprietary security (information from “Turkmenbashi” Bank). The bank would calculate monthly revenue of a borrower in order to determine whether the borrower needs to have a third party guaranteeing the loan repayment. Bank assumes that up to 50% of monthly revenue will be deducted for a loan repayment. UNDP was proposed to become such a third-party guarantor in terms of annual interest repayment **only** (but this option would vary among the banks and to be negotiated on bilateral meetings).¹³⁴

The sustainability of credit system implementation supporting agribusiness is fully dependent on both business and political climate in the country. While there is a positive dynamic observed in political aspect of the micro-scheme, similar tendency cannot be observed for the business climate.

Non-governmental organizations in Turkmenistan

In order to implement the **Component 3** of the Aral PPG Project and conduct successful awareness raising campaigns non-governmental sector of Turkmenistan was analyzed. According to the conducted research, several **non-governmental organizations** (or civil society groups) were highlighted as potential drivers of the Project activities working with local communities and state nature reserves. Only NGOs targeting environmental, social and economic activities working in Ashgabat (AS) and in pilot regions of Lebap (LB) and Dashoguz (DZ) velayats were chosen for further cooperation. The following is the list of all complying NGOs that are targeted via the PPG survey:

N	Name of organization	Location	Mission	Contact person
1.	NATURE CONSERVATION SOCIETY OF TURKMENISTAN Head of the company: Serdar Allekov	All velayats	<ul style="list-style-type: none"> Environment protection and state programs on the creation of green spaces; Providing support to government programs that aim to build a 	Tel: +993 12 931727 Fax: +993 12 932592 Email: egf2002@mail.ru

¹³² More information on the lending options can be retrieved at: https://turkmenportal.com/en/blog/28235/vneshekonombank-turkmenistana-predlagaet-igotnoe-kreditovanie?utm_source=yxnews&utm_medium=mobile (Accessed on September 4, 2020)

¹³³ According to the Senagat Bank’s Credit information retrieved from <https://senagatbank.gov.tm/en/s-business/credits> (Accessed on September 4, 2020)

¹³⁴ According to the informal talk with the “Turkmenbashi” bank representative on July 24, 2020

	Note: SDG Goal 13, 14, 15		democratic state where everyone should have the right to a healthy environment.	Contact in Dashoguz: Vepa Tel: +993 61 500535 Contact in Lebap: Merdan Tel: +993 63 883111
2.	Economic Association "EXPERT-ANALYTICAL AGENCY "YNANCH-VEPA" Head of the company: Guldjema Nurmuhammedova Note: SDG Goal 5 (5.6.1)	AS	<ul style="list-style-type: none"> Professional development in water sector World Women organization Coordinator of UNECE for Central Asia and Caucuses 	Tel: 99365-616481 Email: ngo_ynanch-vepa@mail.ru Contact person: Guldjema Tel: 99362377547 Email: nurmuhammedova@mail.ru
3.	Public Association "ECODURMUSH" Head of the company: Aynabat Atayewna	DZ	<ul style="list-style-type: none"> Consultant support to local community involved in agriculture 	Contact person: Aynabat Email: atayeva@mail.ru
4.	Public Association "YENME" Head of the company: Chorkeliyeva Gulya	AS	<ul style="list-style-type: none"> Work with vulnerable groups of society; Social support of people with disabilities. 	Tel: +993 65 817088 Office: +993 12 934713
5.	Public Association "MASHGALA" Head of the company: Kurban	MR	<ul style="list-style-type: none"> Work with vulnerable groups of society; Supports family and their social adaptation; Organizes cultural, educational and methodological events. 	Tel: +993 65 590395, +993 68 590395 Email: bkurban64@mail.ru Contact person: Mahym - e-mail: mmahym@mail.ru Tel: 864415770
6.	Public Association "TEBIGY KUVVAT" Head of the company: Nazar Korpeev	AS	<ul style="list-style-type: none"> Promotes the Aarhus Convention principles and shares information regarding environmental issues and state initiatives. Offers scientific expertise in water resources, climate change, urban planning, agriculture etc. 	Tel: +993 12 941714 Email: taliev@list.ru
7.	Public Association "BOSFOR" Head of the company: Zalina Rossoshanskaya	AS	<ul style="list-style-type: none"> Empowers general public including vulnerable groups (i.e. women, youth); Provides access to information; Capacity building and implementation of projects in the field of legislation and education, ecology and agriculture, development of small and medium-sized businesses. 	Tel/Fax: +993 12 940476 E-mail: bosforfiles2007@mail.ru www.bosfor.info

8.	Economic Association "DYAP-DESSUR" Head of the company: Muradaliyeva Gozel	MR	<ul style="list-style-type: none"> Empowerment of women and increasing their role in society; Improvement of social status of women groups in society. 	Email: muradalyyeva@rambler.ru Tel.: +993 65 334926 Imo:+993 61 291018
9.	Public Association "KEIK OKARA" Head of the company: Sabir Agabalayev Note: SDG Goal 16	AS	<ul style="list-style-type: none"> Provision of a broad set of information and consulting services for healthy lifestyles, socio-economic, psychological and legal issues. 	Tel/Fax: +99312 22-93-89 Email: keik_okara@mail.ru Contact person: Sabir Tel: +993 65 810833
10.	Economic Association "BEYIK EYAM" Head of the company: Gurbanova Maya (Mubarak)	LB	<ul style="list-style-type: none"> Offering services in consulting and education; Works with questions of economics and migration. 	E-mail: beyikeyyam@bk.ru Tel: +993 65 581366 +993 64 540883
11.	Club "Ynam"	AS	<ul style="list-style-type: none"> Increasing the level of social protection and civil rights of citizens. 	Tel: +993 12 463942 Email: ynam_club@rambler.ru Website: www.ynam.info
12.	Public Association "MAÝYPLARY GOLDAMAK MERKEZI" ("The Center for People with Disabilities of Turkmenistan") Head of the company: Ramazanov Spartak	AS	<ul style="list-style-type: none"> Provide immediate support to vulnerable people; Promote questions of social and environmental integration (NGO manages Green House and a small lake on their property) 	Tel: +993 12 345523, +993 12 960980, +993 65 566389, +993 65 507884 Contact person for environment: Annanurova Maral Akmamedovna Tel: 864047338
13.	Climbing club "MERT" (former "Agama") Head of the company: Begench Mamedov	AS BL	<ul style="list-style-type: none"> Conduct general environmental awareness events; Offers ecotourism assistance with sessions of wildlife photography and filming in the remote areas of the country; Have extensive experience in installing equipment or camera traps for animals in the remote areas of the country; Have experience of studying Pyatnickaya upland* (<i>*protected area within the Amu Darya Nature Reserve targeted by the Aral PPG Project</i>). 	Website: www.Alpagama.org Tel: +993 65 54 11 56 Email: bmamedov@mail.ru Contact person: Vitaliy Sogdeev Tel: +993 65 83 19 13 Contact person: Valeriy Email: valeriy_k@rambler.ru
14.	National Red Crescent Society of Turkmenistan	All velayats	<ul style="list-style-type: none"> Conduct general awareness raising campaigns targeting general public 	Email: info@tgymj.gov.tm Tel: + 993 12 931806

			including vulnerable groups (women, children etc.)	Fax: + 993 12 930349 Website: http://www.tgymj.gov.tm
15.	Society of Fishermen and Hunters Head of organization: Hemra Yalkapovich	All velayats	<ul style="list-style-type: none"> Has practice in organizing environmental events in Dashoguz. Control the environment status of biodiversity; Manage a lake-based territory "Mergen" for fishing and tourism. 	Contact person: Hemra Yalkapovich Tel: +99365 505363 Tel: +99312 931184
16.	Y-PEER	AS	<ul style="list-style-type: none"> Youth advising and counseling regarding healthy habits Conduct seminars and workshops, has a number of experiences trainers. 	Contact person: Aygozel Mukhamedova Email: turkmenistan@y-peer.org Tel: +99364067904 Website: http://www.y-peer.org/Turkmenistan

Media resources in Turkmenistan

During the PPG media resources were analyzed to inform the communication needs and objectives of the targeted stakeholders. There were multiple options chosen to have a substantial awareness raising campaign regarding ecological themes, as well as agricultural, social and political (targeting international relations over transboundary water resources and IFAS). The list of complying media resources working on the territory of Turkmenistan was compiled for further analysis and reach-out:

N	Media name and type	Focus group	Issued	Thematic areas	Contact Information
NEWSPAPERS					
1	Newspaper "Neutral Turkmenistan" (paper-based and online)	All stakeholder groups	Daily	Environmental Economic Social	Contact person: Elena Dolgova Tel: +993 12 234607 +993 64 866745 Email: miata69@yandex.ru Website: http://turkmenistan.gov.tm/ Tel: +993 12 386064 Tel (Dashoguz): 800 349 44960 Tel (Lebap): 800 422 39559 Website: https://metbugat.gov.tm/
2	Newspaper "Bereketli Toprak" (paper-based and online)	Stakeholder groups working in agricultural sector	Weekly	Environmental Economic Agricultural Social	Contact person: Gulyalek Rejepovna
JOURNALS					
3	International Scientific-Practical Journal "Problems of Desert Development"	Scientists working with desert development and land degradation issues	Four times a year	Environmental Technology Innovation Aral Sea International Agreements	Tel: +993 12 942257 +993 12 941477 Email: desert@online.tm
4	Journal "Ekologiya medeniýeti we"	Scientists and practitioners	Monthly	Environmental Wildlife	Contact person: Gulyalek Rejepovna

	daşky gurşawy goramak" [Ecological culture and environment protection]	working with desert development and land degradation issues		Agriculture	Tel: +993 12 941724 Mob: +993 65 555796
5	Journal "Türkmenistanyň daşary syýasaty we diplomatiýasy" [External Politics and Diplomacy of Turkmenistan] (paper-based and online)	Politicians, diplomats, ministry workers and international donor organizations	Annual	General overview of international political process, analysis (<i>has potential for IFAS-related information</i>)	Tel: +993 12 445604 Email: info@mfa.gov.tm Website: https://www.mfa.gov.tm/ru
6	Journal "Täze oba" (paper-based)	All stakeholder groups working in agriculture	Monthly	General overview of agricultural news, analytics, scientific articles	Tel: +993 12 351938
7	Journal "Rysgal"	All stakeholder groups involved in small, medium, and large business	Monthly	Light industry, agricultural production, heavy industry, food industry etc.	

INFORMATION PLATFORMS (NEWS AGENCIES)

7	Information agency "Arzuw News" (online)	All stakeholder groups	Daily	General overview (has a section on environment protection)	Website: https://arzuw.news/ Tel: +993 12 483555 Email: info@arzuw.net
8	Information agency "Innovative Ashgabat (InAshgabat)" (online)	All stakeholder groups (has content in English)	Daily	General overview with Ashgabat-focused news (has a section on environment protection)	Website: http://ashgabat.in/?lang=ru Email: ashgabat.in@gmail.com Tel: +99365562197 +99361488555
9	Information agency "Orient" (online)	All stakeholder groups	Daily	General overview	Website: https://orient.tm/ Tel: +993 12 921116 Email: info@orient.tm
10	Information agency "Turkmenistan Today" (online)	All stakeholder groups (has content in English)	Daily	General overview	Website: http://www.tdh.gov.tm/en/ Tel: +993 12 921212 Email: tpress@online.tm
11	Information agency "Jeyhun News" (Lebap-based, online)	All stakeholder groups (has content in English)	Daily	General overview with Lebap-focused news (has extensive environmental and agro-technological content)	Website: https://jeyhun.news/en/main/ Tel: +993 422 31666 Email: jeyhun.news@gmail.com
12	Information agency "BT Business Turkmenistan" (online)	Economists, businesses, private sector (has content in English)	Daily	Economic and social development (including analytics) (<i>has potential to promote micro-</i>	Website: https://business.com.tm/ Email: info@business.com.tm

13	Union of Industrialists and Entrepreneurs of Turkmenistan (UIE)	Representatives of small, medium, and large business	Daily	<i>schemes and attract investments)</i>	Internet portal for UIE members, as well as a digital database containing legal, economic, statistical, and other information.	Website https://tstb.gov.tm
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Annex: Distribution of questionnaires:

The questionnaire for politicians was distributed among the following state agencies:

1. The Ministry of Agriculture and Environment Protection of Turkmenistan and its sub-division agencies and bodies
2. State Committee of Water Resources and its sub-division agencies and bodies
3. The Ministry of Construction and Architecture of Turkmenistan

The questionnaire for banks and financial institutions:

7. State Commercial bank "Dayhanbank"
8. State Commercial bank "Turkmenbashi"
9. State Commercial bank "Turkmenistan"
10. State Commercial bank "Halkbank"
11. Joint-stock Commercial bank "Senagat"
12. Joint-stock Commercial bank "Rysgal"

The questionnaire for local authorities and land users in Dashoguz and Lebap velayats:

9. Hakimlik of Dashoguz velayat
10. Hakimlik of Lebap velayat
11. Hakimlik of Ruhubelent etrap of Dashoguz velayat
12. Hakimlik of Turkmenbashi etrap of Dashoguz velayat
13. The Union of Industrialists and Entrepreneurs of the Dashoguz velayat
14. Hakimlik of Deynau etrap of Lebap velayat
15. Hakimlik of Daraganata etrap of Lebap velayat
16. The Union of Industrialists and Entrepreneurs of the Lebap velayat

Annex 20: Response to Comments from GEF Council and STAP

Reviewer's comment	Responses	Reference in CEO Endorsement Document/ GEF/UNDP Project Document
GEF Secretariat comments at CEO Endorsement (FSP) Approval (Oct 2019)		
<p><i>Has the project/programme cited alignment with any of the recipient country's national strategic and plans or reports and assessments under relevant conventions?</i></p> <p>As of today, Turkmenistan has not committed to set voluntary targets under the UNCCD Target Setting Program. It is therefore welcomed that the project will support the country to do so. Please note that countries setting voluntary targets, are eligible for support from the Global Mechanism (GM) of the UNCCD and can send a letter of interest via the UNCCD National Focal Point Institution to LDNtargetsetting@unccd.int</p>	<p>Thank you. As suggested, during the PPG phase, the government was supported to access the LDN Voluntary Target Setting Programme. In addition, the project will support the National LDN Target Setting process through a 3-tiered intervention:</p> <ul style="list-style-type: none"> - Targeted capacity development on LDN and connected topics - Setting up an enabling platform for inter-sectorial cooperation for National and Regional LDN target setting - Support to mainstreaming LDN into the policy framework and development of the Action Plan to Combat Desertification 	<p>-GEF-UNDP Project Document/Annex 28 UNCCD support letter for National LDN Target Setting</p> <p>-GEF-UNDP Project Document, Output 1.1. (Activities 1.1.1; 1.1.2;1.1.3)</p>
STAP Scientific and Technical Screening of the Project Identification PIF form		
<p><i>A brief description of the planned activities. Do these support the project's objectives?</i></p> <p>Yes. For component 1, STAP recommends applying UNCCD's "Scientific Framework for Land Degradation Neutrality", and STAP's guidelines on Land Degradation Neutrality. In particular, it would be valuable for the project developers to build-in the response hierarchy that encourages measures to avoid and reduce land degradation combined with actions to reverse degradation to achieve LDN. The science behind the framework is explained in the scientific framework which can be accessed at https://www.unccd.int/publications/scientific-conceptual-framework-landdegradation-neutrality-report-science-policy STAP's guidelines, a practical guide to applying the LDN conceptual framework, can be accessed at: http://www.stagef.org/publications. The description of the current situation evidences that some areas under irrigation may be so degraded that their restoration may be not economically feasible. STAP recommends that cost-effectiveness of interventions be undertaken considering external factors like climate change, and that attention be given to innovative solutions for degraded landscapes that could provide alternative livelihoods (e.g. carbon farming https://www.environment.gov.au/climatechange/government/emissions-reduction-fund/publications/cfi-salinity-guidelines ; or reclamation using novel technologies or phytoremediation).</p>	<p>Thank you. As suggested, the project strategy aligns with the STAP Guidelines for GEF projects and the UNCCD's Scientific Framework for Land Degradation Neutrality, and these guidelines have been carefully considered and applied. The response hierarchy (avoid-reduce-restore land degradation) is embedded throughout the project strategy, informing the LDN target setting processes and the LDN compliant integrated land use management planning.</p> <p>The project will support planning for restoration of degraded land by using : (i) demonstrated well researched restoration measures; (ii) testing innovative solutions on smaller areas before recommending scaling up methodologies; (iii) and through micro-grants that will incentivize demonstrated cost-effective SLM measures .</p> <p>A preliminary climate and vulnerability screening has been done at PPG stage for the selected areas within the land management by selected daikhan associations (these areas will be validated upon project inception, due to the process of restructuring of daikhan association land).</p> <p>During the project implementation, prior to any planned investment, the project will conduct a climate risk assessment (especially under climate risks assessments grouped under GEF-UNDP Project Document Output 1.1./ Act. 1.1.4 and 1.1.5 and 1.3.1) and cost effectiveness of the planned measures. The project promotes the use of lower cost methods and tools to implement Sustainable Land Management (SLM) measures that do not deplete soil condition and that support climate change resilient agroecosystems and livelihoods. The project builds on previous experience of GEF SCCF project "Supporting climate resilient livelihoods in agricultural communities in drought-prone areas of Turkmenistan" and it will further draw from the lessons of the UNDP Climate Risk Management Programme and the Adaptation Fund supported project "Addressing Climate Change Risk to</p>	<p>GEF-UNDP Project Document Output 1.1. (Act. 1.1.4; Act 1.1.5; Act 1.3.1) Output 1.2 (Act. 1.2.1) Output 2.3 (Act 2.3.2)</p>

	<p>Farming Systems in Turkmenistan”, which have demonstrated the cost effectiveness of investing in the construction of new and the renovation of existing water systems, introduction and enhancement of drip irrigation for growing vegetables and fruits, as well as improvement of the soil fertility on the basis of use of compost as means to increase the amount of carbon stored in both grassland and cropland soils, adapting to climate change and improving soil productivity. The cost effectiveness of combating soil erosion around water wells, construction of underground water storage reservoirs and rain pits, cleaning of surface takyrs (natural water harvesting areas) with the purpose of increasing the volume of runoff waters formed by atmospheric precipitation and fixation of sand and afforestation of moving sand dunes have been successful and cost effective means to protect local houses and infrastructure from moving sands. The demonstration of the value of hydrotechnical improvements and agro-ameliorative activities improving the lining of existing irrigation and drainage systems at farm level (where most water wastage occur), include the construction of new and reconstruction of existing drainage systems on the farms and those shared among farms, planning for irrigated land management by application of laser technology means, establishment of field protection belts to provide microclimate and biological drainage for more efficient use of irrigation waters. The implementation of these agrotechnical measures and Phyto amelioration and carbon farming methods have been tested and their value demonstrated as leading to a more rational use of water resources (reducing its consumption per unit of cultivated product) and to a stable or increased productivity of agricultural lands and natural pastures. The benefits include maintenance and enhancement of existing land water and pasture resources through better management and resilient approaches.</p>	
<p><i>Are the global environmental benefits/adaptation benefits likely to be generated?</i></p> <p>Yes, if the theory of change is revisited and adjusted as needed to address the adaptive management strategies the project may require, and the consideration of internal and external factors that could affect the effectiveness of outcomes.</p>	<p>Noted. The Theory of Change has been developed based on the results of close coordination with the government representatives, consultations with NGOs and local community representatives at the PPG phase. An assessments of the complex socio-ecological systems and learning from past efforts have informed the consideration of different options, pathways as well as identification of drivers and assumptions and focus on adaptive management. At local level the sustainability and resilience of production systems will be attained by an integrated management of the natural capital (soil, water, biodiversity). At national level, the project will strengthen institutional frameworks and capacities which will combine at scale the project-promoted successful efforts of many smallholders in the project targeted areas. At regional level, the project will support regional dialogue which will provide for engagement of countries in the region, other development partners, international organizations and scientific institutions.</p>	<p>GEF-UNDP Project Document, Section II Strategy: The long term solution (para 18) Key past and ongoing interventions (para 19) Barriers and Theory of Change (para 23)</p>
<p><i>Is the sum of the outputs likely to contribute to the outcomes?</i></p> <p>Yes. However, STAP wishes to note that including of extension services to landholders</p>	<p>Thank you. As suggested, we have carefully considered ways to strengthen extension services to landholders. The project strategy includes targeted interventions to strengthen extension services and local medium size and smallholders’ access to knowledge. The Theory of Change</p>	<p>GEF-UNDP Project Document Output 3.1, Act. 3.1.2</p>

<p>as part of capacity building at institutional and communal level will strengthen the outputs related to outcome 1. A theory of change that includes needs analysis of stakeholders would also strengthen outputs of outcome 1.</p>	<p>acknowledges Access to Knowledge and Learning as one of the main drivers to shift paths towards sustainability. Therefore the project strategy is based on the analysis of stakeholders' needs, informed partly by a questionnaire conducted at the PPG stage the results of which have been used to identify the main communication needs of the stakeholders, regarding access to specific technical information and knowledge on sustainable agricultural practices; and partly by interviews and round tables conducted by the PPG team. The project document includes therefore actions aimed at supporting climate risk informed agricultural extension services, which are grouped under the KM Component 4 of the Project. The project components are interlinked and the agriculture extension services although grouped under KM component will naturally strengthen the outputs under Outcome 1. For example the project will strengthen the government's extension services in the targeted regions and will strengthen their local offices; furthermore, in partnership with the Adaptation Fund Project "Scaling climate resilience for farmers in Turkmenistan" and the Union of Industrialists and Entrepreneurs, the project will support building of technical capacities of 50 agricultural extension service providers serving all the regions in Turkmenistan. In addition, in partnership with the State Committee of Turkmenistan for Television, Radio broadcasting and Cinematography the project will pilot 20 "on-demand" radio-shows that will test the possibility of setting up radio agriculture and climate risk extension services to respond to concrete needs for information and technical knowledge.</p>	
<p><i>Does the baseline scenario provide a feasible basis for quantifying the project's benefits?</i></p> <p>Partly. STAP recommends describing more clearly the methods that will be used to quantify and monitor the global environmental benefits. STAP suggest the team revising some of the metrics around quantification of project benefits. Example II.1.5 mentions Sustainable pasture management in 500,000 ha; when the preceding table establishes a project contribution of 50,000 ha of pasture land.</p>	<p>Thank you, this is noted and metrics have been revised in the final project design. The process of identifying and selecting the land use types (pastures, forests, irrigated areas) and the SLM approaches and measures was conducted at PPG stage through a participatory process in which multiple local authorities, daikhan farms, daikhans associations were consulted about the existing land use practices and needs, coupled with local missions and bilateral consultations with many farmers. The PPG expert team has preliminarily selected several daikhan associations however as the daikhan associations are in the process of re-structuring since August 2020 in the project targeted provinces, a validation or re-confirmation of interest and further identification of other daikhan farms is envisaged during the project inception. The PPG expert team has identified all the proposed areas for the project interventions based on field missions observations, local interviews with local authorities and other farmers and based on the maps and previous climate vulnerability assessments done during the implementation of other GEF and AF projects in the regions. Furthermore, key climate risks have been preliminarily assessed through consultation with farmers in selected Daikhan Associations (Ak Altyn and Ashyk Aidyn in Dashoguz region and Kabakly, Tyaze Yurt and Lebap in Lebap region) and these risks include drought, increased temperatures and salinisation, compounded by weak investment in infrastructure and maintenance and poor management of water resources. Key resilience</p>	<p>GEF-UNDP Project Document Annex 6: Targeted Landscape Profile. GEF-UNDP Project Document Annex 8 Monitoring Plan.</p>

	<p>requirements prioritised by the community include the rehabilitation of water management systems, the shift to more efficient irrigation, the sustainable management of pastures and the introduction of more drought resistant crops. The pasture areas (500,000 ha) have been preliminary selected at the PPG stage, situated in the proximity of PAs and KBAs/IBAs. The existing knowledge and maps generated by the previous GEF SCCF project (<i>Supporting climate resilient livelihoods in agricultural communities in drought prone areas of Turkmenistan</i>) have been taken into consideration when selecting the main land use types targeted by the project. The selected pastureland areas will be set under sustainable management regimes in cooperation with daikhan associations, private farmers and local authorities. The project will sign agreements with each counterpart (e.g. daikhan farms and daikhan associations as well as with the local authorities) that will include the planned Sustainable Land Management (SLM) measures and an agreed monitoring mechanism to track the ecologic and socio-economic benefits, aligned with the monitoring and evaluation indicators of the project.</p>	
<p>2) <i>Baseline scenario and any associated baseline projects</i></p> <p><i>Are the lessons learned from similar or related past GEF and non GEF interventions described? How did these lessons inform the design of the project.</i></p> <p>Partly. STAP recommends a more robust description of past, or on-going, initiatives in the project document. The baseline scenario identifies relevant projects that could become nexus for learning and dissemination of knowledge within and beyond the project area</p>	<p>Thank you, we take note of this recommendation. As suggested, the project baseline scenario has been carefully described, including the current government’s transition towards market based approach with impressive investments in the agriculture sector foreseen under the Programme for Development of the Agricultural Complex 2019-2025. Where the GEF can be incrementally valuable is to address the remaining barriers and complement the Government baseline with initiatives that focus on the important other elements within the landscape, land-water NEXUS which are – integrated water management, sustainable pasture and forest management and retention of valuable ecosystems – all of which ultimately are indispensable to support and increase the effectiveness of the transition to a market based economy in Turkmenistan. The GEF incremental value will consist in promoting land degradation neutrality (LDN), prioritising policies and investments towards areas most affected by degradation; in demonstrating and increasing local knowledge on LDN compatible integrated land use management and SLM measure to achieve LDN, in a participatory manner, consulting all the affected stakeholders and incentivising farmers away from agricultural practices that negatively impact soil productivity; and in strengthening PAs management efficiency and KBAs/IBAs integration into the wider landscape, through improved zoning and promotion of SLM in production zones and ecological corridors supported by local communities. A comprehensive description of the baseline projects is presented under Annex 24 (GEF-UNDP Project Document).</p> <p>In addition, the GEF-UNDP project strategy is highlighting under the description of Outcomes and Outputs the relevant opportunity for synergies and learning from select GEF and non-GEF initiatives and possibilities for coordination with the initiatives that could act as catalyst for further replication and/or which could leverage</p>	<p>GEF-UNDP Project Section III Results and Partnerships(esp. Output 1.1.) GEF-UNDP Annex 24 List of Baseline Programmes and Projects GEF-UNDP Annex 19. Knowledge Management Plan</p>

	<p>platform for upscaling- the most important initiative being the government's determination to join the National LDN Target Setting Programme, which in itself offers a valuable national platform for a broader uptake of LDN compliant initiatives, and which the project will support under Output 1.1.</p>	
<p><i>3) The proposed alternative scenario with a brief description of expected outcomes and components of the project</i> <i>What is the sequence of events (required or expected) that will lead to the desired outcomes?</i> <i>What is the set of linked activities, outputs, outcomes to address project objective; Are the mechanism of change plausible and is there a well-informed identification of the underlying assumptions? Is there a recognition of what adaptations may be required during project implementation to respond to changing conditions in pursuit of the targeted outcomes?</i></p> <p>The PIF did not detail these steps. STAP suggests sequencing the intervention options, the alternative pathways and decision triggers for switching paths. Tied with this activity is stakeholder mapping - who should be responsible. STAP's primer on the theory of change can be useful in developing a theory of change: http://www.stapgef.org/publications as well as RAPTA2: https://research.csiro.au/eap/rapta/ Of note is that STAP guidance on behavioural change and sustainability of outcomes will be further reviewed during the PPG phase, with additional specific aspects of the project designed to ensure sustainability (pg. 22) Assumptions have not been identified. STAP's primer on the theory of change can assist project developers identify assumptions. STAP recommended several resources in section 5 and 8 the project developers can use to implement adaptive management. In addition, developing a theory of change and embedding adaptive governance throughout this process, would enable project developers to respond to the project's changing conditions</p>	<p>Thank you. We carefully considered RAPTA approach and the project team familiarized itself with it as well as the STAP Primer on the Theory of Change. The project has been developed in line with these resources. Several elements of RAPTA have been reflected in the project design as follows: (i) Stakeholders engagement has been done effectively and consistently during the project identification and project development stages, leading to the identification of the stakeholders' needs and ways to address these needs through the project design, and clarifying the roles and responsibilities that stakeholders will have during the project implementation; (ii) The Theory of Change is consistently embedding resilience and transformational change, reflecting the focus on diverse agroecosystems, using development pathways that include adaptive management strategies encompassing integrated and participative approaches, innovative and also well tested land restoration and pasture management techniques, learning and awareness as well as several triggers that could support the switch to transformational pathways; (iii) System description and assessment has been done based on the results and analysis of different stakeholders' views and the review of previous projects and programmes, leading to a better understanding of complex agroecological and social and economic systems, how these are inter-related and the identification of interventions options ; (iv) M&E and Learning that inform adaptive management and testing of the Theory of Change, are described in the KM Plan of the GEF-UNDP Project Document and discusses ways in which monitoring and evaluative knowledge and learning are captured and codified to inform future phases of the project. enhance stakeholders' knowledge and awareness at the same time increasing their sense of responsibility and accountability.</p>	
<p><i>6. Global environmental benefits (GEF Trust Fund) and/or adaptation benefits</i> <i>Is the scale of projected benefits both plausible and compelling in relation to the proposed investment?</i></p> <p><i>Partly. Identifying assumptions in the theory of change, and clearly identifying what to do, who is to do it and who is to be engaged, would provide a better indication to what extent the benefits are likely to be achieved. A good theory of change and the Boards</i></p>	<p>Thank you. The project team had prioritized the identification of stakeholders' needs and responsibilities in the project design and project implementation in support of achieving the outputs and outcomes and intended Global Environmental Benefits.</p> <p>Throughout the project development, close contact was maintained with stakeholders at national and local levels and most frequently through Zoom calls, bilateral interactions, and small round table meetings to discuss different aspects of the project design and level of involvement of key partners at national and local levels during the project implementation. The engagement with</p>	<p>UNDP GEF Project Document Annex 16. Stakeholders Engagement Plan</p>

<p><i>proposed to coordinate the project would enable identifying and adapting project management to ensure the range of benefits argued in the project are achieved.</i></p>	<p>the main stakeholders during the PPG stage had re-confirmed their interest and commitment towards the project’s objective, outcomes and outputs. Based on these consultations, the Theory of Change discusses several assumptions that have been considered. Most notably, it is expected that political will exists to implement the integrated water-land management planning needed to advance towards LDN and efficient water use on irrigated farm areas that do not deplete soil productivity. It is expected that the national institutions will have the capacity for effective planning, implementation, monitoring and enforcements (Outputs 1.1 and 1.3). Another assumption is that there will be sufficient interests and commitment from local farmers and producers to take up biodiversity friendly agricultural practices in production landscapes (Outputs 1.2, 1.4 and 2.3) and that the national institutions will have the capacity for effective biodiversity management within PAs and will secure local communities engagement in biodiversity friendly agricultural practices in buffer and production areas (Outputs 2.1 and 2.3).</p> <p>Naturally, the successful engagement of the local and national stakeholders will depend on the availability of financial resources to promote sustainable agriculture in production landscape. Similarly, it is assumed that economic benefits will be attractive enough for farmers to implement sustainable production practices (Outputs 1.2, 1.3, 1.4 and 2.3).</p> <p>The risks and mitigation actions have been further identified and the project employed UNDP tools such as the Social and Environmental Safeguards Screening Procedures and Risk Log Matrices to help address the potential risks through participative and adaptive management approaches.</p> <p>The Stakeholders Engagement Plan had been developed with a view of validating roles and responsibility of all stakeholders and ensuring their participation in achieving of the project outcomes, at the same time taking onboard the knowledge, experience, and skills of stakeholders to enhance the design and implementation of the project. The Stakeholders Engagement Plan further discusses the entry points of each project partner and stakeholders groups and their support to the achievement of the intended GEB.</p>	
<p><i>Are the global environmental benefits explicitly defined?</i></p> <p>Partly. Some of the global environmental benefits require re-wording. For example, LDN is not a global environmental benefit. Increased soil organic carbon is a benefit that can result from LDN. Similarly, management effectiveness of PA is not a global benefits, but maintain and improving the status of PA safeguards biodiversity.</p>	<p>Thank you. We take note of the suggested rewording and the description of global environmental benefits has been revisited in the final project design . The global environmental benefits have been carefully considered during the project development, and the final project design includes a discussion of the intended GEF under UNDP GEF Project Document Section 3.4 Incremental Cost Analysis and Global Environmental Benefit. For example, under GEF LD focal area, the project has been designed to generate multiple GEB from sustainable land management and from land restoration measures compliant with LDN principles, expected to result in an increase of the soil organic carbon over the long term. The project will improve water management on 100,000 ha of</p>	<p>UNDP GEF Project Document Section 3.4 Incremental Cost Analysis and Global Environmental Benefits.</p>

	<p>irrigated land in the four targeted districts which will lead to reduced water logging, improved water resources use and reduced soil salinization and therefore improved soil condition. The benefits of the agroforestry and resilient crop farming measures will lead to reduced soil erosion and increased soil productivity. The implementation of recommendations on the observance of minimum ecological flows of lakes will secure ecological integrity of the lakes in Amudarya basin. Approximately 500,000 ha of pastureland will be under sustainable management regimes that will result in the avoidance or reduction of pasture degradation over longer term. Demonstrated cost-effective restoration interventions and further action plans for restoring approximately 50,000 ha of degraded pastures, 5,300 ha of tugai and saxaul forests and 4,700 ha of degraded agricultural land will remove the risk of land loss and in the long term will lead to soil carbon increase and gradual soil productivity increase. Targeted support to forest and lake ecosystem restoration, in return, will remove the erosion risk of crop fields and pastures. Carbon benefits will accrue as soil carbon is restored and forest regenerates. The project addresses land resources through integrated land use planning, sustainable production and restoration of degraded lands around PAs and KBAs/IBAs. The rehabilitation of degraded lands will support the needs of agriculture without further expansion into the riparian and floodplain tugai forests.</p> <p>Under the BD area, BD benefits are associated with the biodiversity-friendly production practices under the community-based agreements facilitated by the project, covering 292,607 ha buffer zones and ecological corridors on areas highly affected by agriculture and other development activities. The project will provide for expansion of PA estates by an increment of 60,000 ha covering KBAs/IBAs stabilizing population of critical species. The GEF investment will significantly strengthen the management effectiveness of 1,077,554 ha of existing PAs and will provide improved conditions to achieve a stable status of global Red List species.</p>	
<p><i>Are indicators, or methodologies, provided to demonstrate how the global environmental benefits will be measured and monitored during project implementation?</i></p> <p>Partly. As noted above, the methods need to be described further; and metrics for indicators need to be developed.</p>	<p>The final project design includes carefully considered indicators and means to monitor them, discussed with the stakeholders involved. The Project Document's Results Framework and the Monitoring Plan includes relevant metrics and an explanation of the targets and means of verifications. The means of verifications includes a range of information from official local and national statistics of the Implementing Partner and district and province authorities, to annual reporting in PIR, written agreements with Daikhan farms/Daikhan associations including monitor schemes, project's own monitoring fiches, GIS analysis of targeted intervention sites, and monitoring of the successful completion of the project activities supported by the M&E GEF and UNDP tools validated by midterm and final evaluations. In addition, carefully designed KM indicators (embedded in the overall Results Framework) have been selected including methodologies, guidelines, manuals and the knowledge generated during various assessments, that are considered essential in achieving the respective</p>	<p>GEF-UNDP Project Document Section IV Project Results Framework GEF-UNDP Project Document Annex 8 Monitoring Plan</p>

	<p>outcomes. Some of the proposed knowledge outputs to be produced and considered to be critical to achieving the GEB under different outcomes are the following :</p> <p>For improved condition of land resources and progress towards land degradation neutrality (i) KM Indicator 16: Level of information necessary for improved irrigation water management at farm level considering the climate change impacts and knowledge regarding the necessary water requirements of the lakes and wetlands ; (ii) KM Indicator 17: Existence of formal guidelines and methodology on LDN and integrated land use planning, on SLM measures applicable for practical improvements of land management, use of mineralized drainage water and restoration of saline lands</p> <p>For securing critical ecosystems services and stabilizing key species population and valuable habitats: (iii) KM Indicator 24: Existence of environmental data on IBAs/KBAs status, species and habitats, improved data base available for PAs managers and environmental inspectors; Conservation experience and knowledge on key species and critical ecosystems shared through seminars, workshops, community engagement, conferences, through S-S exchanges and knowledge products in the region; Assessment of ecosystem services and ecotourism potential in the targeted project areas.</p> <p>Furthermore, the employed methodology and approaches are described in a comprehensive manner under each Output and are tailored to the selected indicators. Suitable LDN compatible SLM measures to manage desertification, erosion and enhance the productivity of agricultural and non-agricultural land that will be promoted by the project are the following:</p> <p>a)LDN target setting and LDN centered participatory Integrated Land Use Planning are new for Turkmenistan and if upscaled and replicated at national scale will definitively set land governance on a different transformational path, that will support achieving land degradation neutrality.</p> <p>b) As LDN is implemented at local levels through integrated land use planning and SLM, the development of LDN and SLM manuals, guidelines, standards based on different assessments (climate risk; land degradation; socio-economic etc.) that will be conducted during the LDN target settings and during the integrated land use planning in Dashoguz and Lebap will be critical to achieving the intended GEB. The guidelines will reflect the fact that LDN compliant land use planning and SLM can lead to improved condition of the land capital, increased productivity and income generation.</p> <p>c)Capacity building: national and local capacity building workshops will be held in targeted areas for multiple stakeholders. Exchange field visits both locally and regionally (Uzbekistan and Kazakhstan) will be undertaken.. Locally, in different locations in the targeted provinces, the farmer-to-farmer exchange round tables and Farmer Field Schools and SLM Champions, will offer platforms for sharing knowledge and SLM experience e.g. sustainable pasture management and water saving measures, tugai assisted regeneration; agroforestry;</p>	
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	<p>drought resistant farming, crop resilience to salinity and crop rotation measures that help improve soil productivity. Regionally, the field visits will facilitate experience sharing with farmers and water users in Uzbekistan on basin principle application to water management among multiple water users; and regional field visits and meetings between PAs practitioners in Turkmenistan, Uzbekistan and Kazakhstan will support cross-border wildlife migration corridors.</p> <p>d) Integration of SLM into livestock and daikhan farms to deliver GEB and on-farm benefits such as reduced erosion and increased productivity. This will include pasture management plans including planned pasture rotation and selection of areas for planting, incorporating native saxaul belts and fodder corps;</p> <p>e) On-farm climate smart water management and crop resilience to salinity will be tested, methodologies and guidelines developed for further replication;</p> <p>f) Secured agreements with local producers on sustainable agricultural practices in the pasture areas surrounding and/or overlapping this KBAs/IBAs , improved land use mapping and zoning of PAs and KBAs/IBAs as well as securing ecological corridors for wildlife feeding and migration will stabilize population of key species in targeted areas.</p>	
<p><i>What activities will be implemented to increase the project's resilience to climate change?</i></p> <p>Currently, the PIF does not describe how the project's resilience to climate change will be strengthened. STAP provides recommendations in sections 5 and 8 below on how to embed climate risks in the project, and apply systems analysis (a critical backbone of LDN approach), to increase the project's resilience.</p>	<p>Thank you for suggesting recommendations on how to embed climate risk in the GEF interventions and these have been considered in the final project design. We took note of these recommendations and the PPG expert team has familiarized with the methodology and we have carefully considered system analysis and the LDN principles in the project development. The project consistently applies resilient and adaptive management and aligns with the LDN principles through a system thinking and detailed assessments of land degradation of different land use types, supporting climate risk informed agricultural extension services, LDN compatible SLM measures and biodiversity conservation, including building resilient terrestrial and freshwater ecosystems and climate-smart agricultural practices that are expected to contribute to reducing this risk.</p> <p>The project design include activities that demonstrate and put in place irrigated and non-irrigated arable land measures that are grounded by scientific principles and participatory methods mechanisms that will enable stakeholders to adapt the management of natural resources to any given context and threats. Attention to the current and potential impacts of climate change has been built-in to all aspects of the project.</p> <p>For example, the project design employs several multi-disciplinary land and water resources assessments including climate risk assessments, the results of which will inform LDN compliant integrated land use plans and rationalised water management practices in the targeted districts. The climate risks and vulnerability assessments for the water sector includes hydroclimate projections under different climate change scenarios to inform integrated water management planning in the targeted</p>	<p>GEF UNDP Project Document under Activity 1.1.5. GEF UNDP Project Document under Activity 1.3.1 GEF UNDP Project Document under Annex 5 UNDP Social and Environmental Screening procedures (SESP) GEF UNDP Project Document under Annex 7 UNDP Risk Register (Risk 8) LDN Checklist (Annex 26)</p>

	<p>districts. The prioritised climate risks will be followed by the validation of appropriate combination of SLM measures that will address these risks and will consider unique risks by vulnerable groups including women. Furthermore, the project applies LDN Checklist and the ecosystem management benefits will be mostly associated with the resilience of land and water management resources, sustainable management regimes and rationalised and efficient use of water resources for improved management of land and forests.</p>	
<p><i>Is the project innovative, for example, in its design, method of financing, technology, business model, policy, monitoring and evaluation, or learning?</i></p> <p>Partly; there is innovation in the application of LDN and remote sensing for land use planning and for a baseline assessment that will be used in prioritisation of interventions.</p> <p>It would be valuable to provide further details on both of these methods, how they will address ecosystem and land degradation, contribute to scaling, and deliver global environmental benefits. Furthermore, it is highly desirable the project appraises the feasibility of innovative business and financial models (e.g. public-private partnerships, the use of market-based instruments), and approaches for rehabilitation of degraded agricultural areas (e.g. phyto-remediation, etc). Papers that can be used to that end are: Baumber, A., Berry, E. and Metternicht, G., 2019. Synergies between Land Degradation Neutrality goals and existing market-based instruments. <i>Environmental science & policy</i>, 94, pp.174-181. Chasek, P., Akhtar-Schuster, M., Orr, B.J., Luise, A., Ratsimba, H.R. and Safriel, U., 2019. Land degradation neutrality: The science-policy interface from the UNCCD to national implementation. <i>Environmental science & policy</i>, 92, pp.182-190. Kust, G., Andreeva, O., Lobkovskiy, V. and Telnova, N., 2018. Uncertainties and policy challenges in implementing Land Degradation Neutrality in Russia. <i>Environmental science & policy</i>, 89, pp.348-356. Liniger, H., Harari, N., van Lynden, G., Fleiner, R., de Leeuw, J., Bai, Z. and Critchley, W., 2019. Achieving land degradation neutrality: The role of SLM knowledge in evidencebased decision-making. <i>Environmental science & policy</i>, 94, pp.123-134</p>	<p>Thank you for the suggested approaches and resources for the GEF project. We have carefully considered these recommendations and the PPG team got familiarised with the recommended resources and we have introduced several elements of innovative approaches in the final project design.</p> <p>a) Integrated LDN compliant integrated land use management: The project is turning the LDN concept into practice for the first time in Turkmenistan and will generate new and innovative approaches to multi-sector land use planning based on remote sensing data in mapping and geospatial analysis, testing and implementation of LDN compatible land use planning in four priority districts in Dashoguz and Lebap provinces. The project will explore the possibility of using the software tool for the implementation of “neutrality mechanism” which is expected to be selected by the UNCCD in 2021, part of the GEO-LDN Competition- an international technology innovation competition to design and build software analytics solutions to support more transparent and well informed land use decisions at the local and national levels¹³⁵.</p> <p>The resulting “Neutrality Maps” from using such an innovative tool would be extremely useful, as it will allow visualisation and quantification of gains (where interventions are planned to reverse past land degradation), stable areas (where land based natural capital can be maintained through good management) and anticipated losses (where realistically it is determined that land degradation may not be avoidable).</p> <p>Furthermore, the project supports National LDN target setting and refining LDN assessment tools tailored to national available information and capacities, based on continuous dialogue with stakeholders and linked to targeted capacity building sessions (GEF-UNDP Project Document Output 1.1. Act. 1.1.1).</p> <p>b) Integrated water management: The project’s integrated approach is aligned with IWRM and LDN concepts, and will provide concrete demonstration of efficient water use in irrigated areas at 4 district levels; will use innovative irrigation technologies (such as laser leveling and drip irrigation), targeted software such as the crop-water productivity model Aquacrop (FAO); The</p>	<p>GEF-UNDP Project Document Output 1.1; Output 1.2; Output 1.3; Output 1.4; Output 2.3; Output 3.1.</p>

¹³⁵ <https://www.unccd.int/news-events/competition-design-land-use-planning-software-land-degradation-neutrality>

	<p>assessments of water use patterns and hydroclimate modelling will result in recommendations for a balanced allocation among multiple water users, that account for climate change predicted water shortages and that will maintain the ecological integrity of the water based ecosystems (GEF-UNDP Project Document Output 1.3; Act 1.3.1)</p> <p>c) Crop resilience to salinization and restoration of marginal lands : The project will test water use of drainage mineralized water and salt tolerant crops and will develop a Bio-saline agricultural model for sustainable and integrated use of marginal mineralized water resources in salt affected soils; and will implement practical actions for efficient water saving and agricultural practices that will not deplete soil condition (GEF-UNDP Project Document Output 1.3 Act 1.3.3.)</p> <p>d) Restored desert pastures, saxaul forest and assisted regeneration of tugai thickets : The innovative element will consist in the application of diverse pasture and forests management measures aligned with the “prevent-reduce-restore” hierarchy, based on the LDN baseline assessments and promotion of biodiversity-friendly production practices and ecological corridors and buffer zones around PAs and KBAs/IBAs. (GEF UNDP Project Document Output 1.4. Act. 1.4.1 and Act 1.4.2);</p> <p>e) Innovative SLM measures, IT, policy and business solutions through the project’s Innovation Challenge (GEF UNDP Project Document Output 1.2; Act 1.2.4) will promote innovative business solutions, innovative technologies, policies, regulations and financial instruments aiming at improving land governance and reversing land degradation.</p> <p>f) Agricultural Radio Extension Services will be explored by the project, based on initial “on demand” 20 Radio Talk Shows to be organized in partnership with the State Committee on Television, Radio Broadcasting and Cinematography, responding to farmers needs including a segment for women farmers (GEF-UNDP Project Document Output 3.1 Act 3.1.2)</p>	
<p>Is there a clearly-articulated vision of how the innovation will be scaled-up, for example, over time, across geographies, among institutional actors?</p> <p>Partly. The types of innovation are described (LDN and remote sensing), but not how they will encourage scaling.</p>	<p>The project final design includes specific actions that will encourage a broader uptake of the LDN compliant SLM measures and approaches promoted by the project. The project document aligns with the STAP guidance (GEF/STAP/C.56/Inf.04) on achieving sustainable outcomes, including the following approaches: (i) Designing multi-stakeholder processes to engage key stakeholders, build stakeholder trust and motivation, and incentivize core actors for sustainable wetlands, lakes and riparian zones management (ii) Outlining a theory of change that recognizes the need for policy and financing frameworks’ coherence and participatory approaches and emphasizes diversity and adaptive learning. Institutional sustainability will be ensured by promoting interagency cooperation.</p>	<p>GEF UNDP Project Document Section III Results and Partnership; Sub-section 3.11 Sustainability and scaling up.</p>
<p><i>Project Map and Coordinates. Please provide georeferenced information and map where the project interventions will take place.</i></p>	<p>The targeted project interventions areas are described in the annexed document targeted Landscape Profile and georeferenced maps are provided in the Annex 1.</p>	<p>GEF-UNDP Project Document Annex 1 Project map and geospatial</p>

<p>Different types of maps land use change, land degradation, and key biodiversity areas, are provided in the annex. STAP recommends providing the geo-referencing information where the project interventions will take place. Currently, the coordinates only for the key biodiversity areas are listed on page 52-55.</p>		<p>coordinates of project sites GEF UNDP Project Document Annex 6 Targeted Landscape Profile</p>
<p><i>Have all the key relevant stakeholders been identified to cover the complexity of the problem, and project implementation barriers?</i></p> <p>In the project document, STAP recommends defining the roles and responsibilities of each stakeholder in relation to the global environmental outcomes. The project developers can keep in mind the following questions as the project is designed: What are the stakeholders' roles, and how will their combined roles contribute to robust project design, to achieving global environmental outcomes, and to lessons learned and knowledge? Have all the key relevant stakeholders been identified to cover the complexity of the problem, and project implementation barriers?</p>	<p>Thank you for the recommended actions. The project design has considered meaningful stakeholders engagement tools and approaches that align with the recommended actions. The project design has been based on LDN Checklist which is aligned with the multiple benefits philosophy and participatory approaches including all the stakeholder and particularly focusing on the vulnerable groups including women.</p> <p>The project design has further used UNDP Stakeholders engagement tools and incorporates several features to ensure ongoing and effective stakeholder participation in the project's implementation. UNDP is committed to ensuring meaningful, effective, and informed participation of stakeholders in the formulation and implementation of UNDP Programmes and Projects.</p> <p>Principally UNDP requires that its projects are designed with meaningful and effective participation of all stakeholders. This foundation for sustainable development assures that local people and other stakeholders play a key role in advancing achievement of the sustainable development goals (SDGs). UNDP's commitment to stakeholder engagement arises from internal policies, procedures, and strategy documents as well as key international human rights instruments, principles and numerous decisions of international bodies, particularly as they relate to the protection of citizens' rights related to freedom of expression and participation.</p> <p>The Project's Stakeholders Engagement Plan has captured the roles and responsibilities of the key stakeholders in achieving the intended GEB and removing the identified barriers during the PPG stage. Furthermore, the Knowledge Management Plan has further identified the communication needs of different stakeholders and targeted means to reaching out with meaningful messages, that are expected to increase their participation and interest in project activities.</p>	<p>GEF UNDP Project Document Annex 16 Stakeholder Engagement Plan's GEF UNDP project Document Annex 17 Knowledge Management Plan</p>
<p><i>Have gender differentiated risks and opportunities been identified, and were preliminary response measures described that would address these differences.</i></p> <p>Partly. Gender differentiated risks and opportunities will be considered in the project design. STAP is encouraged by the project's plan to apply gender sensitive data, identify appropriate indicators, and build on gender mainstreaming lessons from other</p>	<p>Thank you for the recommendations, the PPG expert team has carefully considered the issues raised and with the support of a gender expert the project design includes a Gender Action Plan and gender sensitive activities and indicators mainstreamed throughout the project's final strategy.</p> <p>Furthermore, the project design has considered UNDP and GEF gender policies and the gender analysis has been highlighting key gaps that are prioritized by the GEF for project and programme planning namely: unequal access to and control over natural resources; unbalanced participation in decision-making in environmental</p>	<p>GEF UNDP Project Document Annex 18 Gender Action Plan</p>

<p>projects. STAP would like for the gender methodology, and plan to be described further in the project document. In addition, STAP suggests considering whether gender considerations hinder full participation of an important stakeholder group (or groups)? If so, how will these obstacles be addressed in the project.</p>	<p>planning and management at all levels; unequal access to social and economic benefits and services.</p>	
<p><i>Are the identified risks valid and comprehensive? Are the risks specifically, for things outside the project's control?</i></p> <p>Partly. The social risks and mitigation strategies are described in the PIF. It is clear that stakeholder engagement and deliberation processes will be implemented to address social differences, or risks, that may hamper the project. However, less clear is how the project intends to address climate risk.</p> <p>For climate risk, and climate resilience measures:</p> <p>STAP suggests adding climate projection data for Turkmenistan in section 1 - to strength the context of the problem situation. If climate data is available for the project site, STAP recommends adding this data. The World Bank's climate knowledge portal is one source for climate data that the project developers may wish to use: https://climateknowledgeportal.worldbank.org/ Furthermore, STAP recommends developing the interventions bearing in mind the effects of climate change on temperature and precipitation. Key questions the project developers should ask during the project design are listed to the right. Both temperature and precipitation will be affected by climate change. STAP also recommends for the project developers to consider: 1) the period of time the intervention is expected to contribute to global environmental benefits, and how the activities may be affected by climate change; 2) how each intervention will be impacted by climate variability, or weather-related disasters (e.g. droughts); and, 3) how might climate, and non-climate stressors (e.g. social changes mentioned in the PIF), interact to exacerbate climate risks? The project developers may wish to refer to U.S. AID's Climate Risk and Management tool: https://www.climatelinks.org/resources/climate-risk-screening-management-tool; and STAP's guidance on climate risk assessment: http://www.stapgef.org/stap-guidanceclimate-risk-screening. STAP also recommends the team to access recent research on</p>	<p>Thank you. We carefully considered climate risks throughout the project and the project employed SESP and Risk Log Matrix that would help address these risks in an adaptive way. The project team has carefully reviewed the recommended actions and resources and we have included the relevant elements in the project's final strategy in order to address climate risk.</p> <p>Climate projection information has been added to the description of problem situation. Furthermore, the project team has reviewed the (scarce) available climate information for the targeted regions. The project strategy and final design has been built on the available climate vulnerability assessments for the targeted regions done under GEF SCCF project " Supporting resilient livelihoods in agricultural communities in drought prone areas of Turkmenistan" and the available multi-cluster maps for the validation of selected intervention areas.</p> <p>The project design include activities that demonstrate and put in place irrigated and non-irrigated arable land measures that are grounded by scientific principles. Furthermore, the envisaged hydroclimatic models based on climate change scenarios and climate risk assessment for water sector and land capital that will be implemented under Output 1.1. will identify and prioritize SLM measures to address climate risk. In addition, participatory approaches and the results of these assessments will enable stakeholders to adapt the management of natural resources to any given context and threats. Attention to the current and potential impacts of climate change are built-in to all aspects of the project. The project applies the best available climate change forecasts data for Turkmenistan's lower Amu Darya basin, and ensures that all project activities and plans take potential future climate impacts into consideration.</p> <p>For example, the project's land restoration demonstrative areas will prioritize "LDN hot spots"; and its support to cultivation of trees, shrubs and herbaceous halophytes on salt resistant crops is of significant ecological importance in Turkmenistan, helping local communities adapt to these conditions. Afforestation with saxaul will mitigate the impact of salt and sandstorms. Sustainable management of KBAs and desert pastures will support resilient ecosystems and livelihoods; the project will further review climate data and climate change projections as part of the development and implementation of sustainable management measures, consistently adapting to any climate events.</p> <p>The project will also identify potential gaps in the existing system of PAs in order to effectively conserve biodiversity,</p>	<p>GEF-UNDP Project Document Section I Development Challenge, sub Section 1.1</p> <p>GEF-UNDP Project Document Output 1.1; Output 1.2; Output 1.3; Output 1.4; Output 2.3;</p> <p>GEF-UND Project Document Annex 7 UNDP Risk register (Risk 8)</p>

<p>the interconnections between climate change, water resources and food in Turkmenistan. Water availability is central to this project. Duan, Weili, Yaning Chen, Shan Zou, and Daniel Nover. "Managing the water-climate-food nexus for sustainable development in Turkmenistan." <i>Journal of Cleaner Production</i> 220 (2019): 212-224.</p>	<p>considering the potential for ecosystem change and ecological shifts due to climate change impacts. The project's work to support sustainable land and water use will also be grounded in the best available and most recent climate science relevant for this region of Turkmenistan. As part of the project's work on strengthening the management effectiveness of PAs it will also strengthen environmental monitoring capacities in order to better track the future effects of climate change within PAs and the targeted KBAs more broadly. Finally, the project will be coordinating with adaptation planning initiatives to exchange knowledge and information on climate change scenarios and adaptive models (e.g. UNDP implemented Adaptation Fund project and Green Climate Fund NAP initiative).</p>	
<p>How will the project's objectives or outputs be affected by climate risks over the period 2020 to 2050, and have the impact of these risks been addressed adequately.</p> <p>Has the sensitivity to climate change, and its impacts, been assessed? Have resilience practices and measures to address projected climate risks and impacts been considered? How will these be dealt with. What technical and institutional capacity, and information, will be needed to address climate risks and resilience enhancement measures?</p> <p><i>See above.</i></p>	<p>The project team has carefully considered these aspects and (as explained in the above section) the available climate change information and projected scenario 2020-2050 and had conducted preliminary climate risk assessment during the PPG stage through information review and local consultations with farmers, local authorities and different science institutes.</p> <p>Climate change and changing of precipitation patterns, water scarcity and poor pasture watering infrastructure accentuates the desertification process, the productivity of pastures and grazing sites being severely affected (during dry years, a reduction of the volume of forage by 3-5 times is observed). Predicted climate change impacts include: (i) an increase in average annual temperature of between 4.2 and 6.1 degree Celsius by 2050¹³⁶ (ii) a reduction in annual average of rainfall between 15-56% by 2050¹³⁷ (iii) an increase in average regional evaporation rates of 47% by 2050 (iv) an increase in the frequency and intensity of drought and flood occurrence (v) a 15% reduction in Amudarya River flow rates (vi) a 39% reduction in the flow rates of other river systems.</p> <p>The project design include activities that demonstrate and put in place irrigated and non-irrigated arable land measures that are grounded by scientific principles and participatory methods mechanisms that will enable stakeholders to adapt the management of natural resources to any given context and threats. Attention to the current and potential impacts of climate change has been built-in to all aspects of the project.</p> <p>For example, the project design employs several multi-disciplinary land and water resources assessments including climate risk assessments, the results of which will inform LDN compliant integrated land use plans and rationalized water management practices in the targeted districts. The climate risks and vulnerability assessments for the water sector includes hydroclimate projections under different climate change scenarios to inform integrated water management planning in the targeted</p>	<p>GEF-UNDP Project Document Section I Development Challenge , sub Section 1.3</p> <p>GEF-UNDP Project Document Output 1.1; Output 1.3;</p>

¹³⁶These estimates are based on the findings of five general atmosphere and ocean circulation models (GCM) reported in Turkmenistan's Initial Communication on Climate Change (1998). The GCM with the most plausible results on temperature predictions was the UK89 model (equilibrium model of the United Kingdom Meteorological Agency). According to this scenario, temperature is predicted to increase by 5.5°C by 2050.

¹³⁷ The GDFL model scenario (equilibrium model of Geophysical Fluid Dynamics Laboratory, University of Princeton, USA), however, predicted no change in rainfall (Turkmenistan's Initial National Communication on Climate Change, 1998).

	<p>districts. The prioritized climate risks will be followed by the validation of appropriate combination of SLM measures that will address these risks and will consider unique risks by vulnerable groups including women.</p> <p>Capacity building will be conducted at national and local levels in targeted areas for multiple stakeholders. Exchange field visits both locally and regionally (Uzbekistan and Kazakhstan) will be undertaken. Locally, in different locations in the targeted provinces, the farmer-to-farmer exchange round tables and Farmer Field Schools and SLM Champions, will offer platforms for sharing knowledge and SLM experience e.g. sustainable pasture management and water saving measures, tugai assisted regeneration; agroforestry; drought resistant farming, crop resilience to salinity and crop rotation measures that help improve soil productivity. Regionally, the field visits will facilitate experience sharing with farmers and water users in Uzbekistan on basin principle application to water management among multiple water users; and regional field visits and meetings between PAs practitioners in Turkmenistan, Uzbekistan and Kazakhstan will support cross-border wildlife migration corridors.</p>	
<p><i>Is there adequate recognition of previous projects and the learning derived from them?</i></p> <p>Yes. However, STAP suggests describing further the lessons from previous, or on-going, initiatives should be detailed in the project document. Also, the project's theory of change and component 3 should describe how lessons from previous projects are being used to inform the design of the project, and scale-up learning on sustainable land and water management in the Aral Sea Basin.</p>	<p>Thank you for the suggested approach. The project team has carefully considered the previous programmes and projects' generated knowledge and experience and captured the lessons learned in the Knowledge Management Plan. The project has reviewed several approaches and promising good practices in sustainable land management and biodiversity conservation, that have been implemented during the past years together with the local communities and stakeholders. Barriers persist, represented mainly by a lack of an enabling environment, including prioritized policies and investments that would drive transformational results in tackling desertification, land degradation, water scarcity and biodiversity decline in Turkmenistan. The project will build on the tested methods and practices within previous donor funded projects, by working with the local stakeholders to further strengthening their capacities for SLM measures and incentivizing a larger up taking of the tested good practices.</p>	<p>GEF-UNDP Knowledge Management Plan Annex 19</p>
<p><i>What overall approach will be taken, and what knowledge management indicators and metrics will be used?</i></p> <p><i>What plans are proposed for sharing, disseminating and scaling up results, lessons and experience?</i></p> <p>STAP suggests building adaptive management, learning and knowledge into the project design, which should rely on LDN's systems thinking principles. Implementing adaptive governance has an important role to play in this regard. Adaptive governance is defined as "Adaptive Governance helps you to deal with complexity, uncertainty and rapid change in legitimate, equitable and effective ways. It involves creating</p>	<p>Thank you for the suggested approaches. The team has carefully considered the recommended resources and the Knowledge Management approach includes elements of the RAPTA and focuses on learning as a mean to achieve adaptive management. Furthermore, the Knowledge Management Plan approach is geared towards addressing capacity gaps and barriers and includes a range of practices to identify, capture, store, create, update, represent and distribute knowledge for use, awareness and learning.</p> <p>The project's proposed KM approach includes seven elements aligned with the GEF requirements to foster learning and sharing from relevant projects and programmes, initiatives and evaluations that will contribute to the project's overall impact and sustainability : (i) The first element includes a comprehensive overview of existing lessons learned and good practices that informs the project concept, and</p>	

<p>governance structures and processes that enable adaptability, trusted collaboration and Active Learning. This is achieved through establishing key roles, responsibilities, decision-making processes and accountabilities in the governance of intervention design, implementation and assessment." The project developers may wish to consider the Resilience, Adaptation Pathways and Transformation Approach, version 2 as a guide on how to embed adaptive governance in the project: https://research.csiro.au/eap/rapta/</p>	<p>shows how it will build on the tested methods and practices within previous donor funded projects, by working with the local stakeholders to further strengthening their capacities for SLM measures and incentivizing a larger up taking of the tested good practices; (ii) the KM plan then analyses and plans ways to learn from relevant projects, programmes and initiatives and evaluations, and lists several key initiatives that has on one hand informed the project’s design and on the other hand will further support learning and adaptive approaches. (iii) the KM Plan further analyses a series of processes that are suggested to capture, assess and document information, lessons learned, best practices and expertise generated during project implementation; (iv) the fourth element of the KM Plan is proposing tools and methods for knowledge exchange, learning and collaboration, that ultimately will be contributing to scaling up and replication the generated project experience; (v) the KM Plan then highlights the proposed knowledge outputs that will be produces and shared with the stakeholders and includes KM indicators in the Project’s overall results. Framework and monitoring activities; (vi) the KM Plan discusses how knowledge and learning will contribute to overall project’s impact and sustainability and highlights the iterative learning and multiple purpose of the knowledge generated during the LDN assessments: for example to inform other processes (e.g. to evaluate the effectiveness of interventions in maintaining land-based natural capital); to monitor the outcomes of counterbalancing mechanisms; to monitor the effectiveness of safeguards (e.g. protection of the rights of local people and informing future land management plans). (vii) Finally the KM Plan includes planned approaches for strategic communication, based upon the needs analysis of different key stakeholders and the insights provided by a PPG conducted survey of different categories of stakeholders.</p>	
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GEF Council comments at the GEF December 2019 Work Programme (Germany)

<p>Germany strongly encourages knowledge exchange with related regional and bilateral projects, especially with the following:</p> <ul style="list-style-type: none"> ○ “Cross-border water management - Strengthening regional cooperation in the field of cross-border water management 2010-2020” (financed by German Foreign Office), which has cooperated with IFAS since 2009; ○ “Climate smart agriculture in Central Asia (financed by the German Federal Ministry for Economic Cooperation and Development (BMZ)), which is still active until 2020 ○ “Sustainable and climate-sensitive land use for 	<p>Thank you for the recommendations. The project team has carefully analyzed the suggested initiatives and the final design is reflecting on the lessons learned from previous GIZ supported initiatives and further cooperation opportunities , and these have been described under the Knowledge Management Plan. For example, the knowledge generated by the GIZ supported Integrated Land Use Management Approaches (ILUMA) in the Central Asian region in particular under the “ Sustainable and Climate Sensitive Land Use for Economic development in Central Asia” (2008-2015) has been considered in the project design especially elements of the multi-stakeholders participative land use planning.</p> <p>The new GIZ Programme “Integrative and Climate sensitive land Use in Central Asia” 2021-2024 will further promote the ILUMA (Integrated Land Use Management Approaches) and will focus particularly on ensuring that integrative land use approaches are better anchored at national and regional levels. Therefore, the GEF project will coordinate with the new GIZ programme and will explore the possibility of the organization of joint capacity</p>	<p>GEF-UNDP Project Document Knowledge Management Plan GEF-UNDP Project Document Baseline Programmes and Projects</p>
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<p>economic development in Central Asia” (financed by BMZ), which is active in the forestry sector in Tajikistan,</p> <ul style="list-style-type: none"> ○ “Technology-based adaptation to climate change in rural Tajikistan and Kyrgyzstan” (financed by the German Climate and Technology Initiative (DKTI)) 	<p>building events targeting Integrated LDN compliant Land Use Management Planning.</p>	
<p>Germany would also recommend making the documented lessons (output 3.2) publicly available (e.g. through a project website) instead of only sharing it with key stakeholders. There is high interest in the international community on using LDN principles for land use planning. UNCCD’s Science Policy Interface (SPI) will work on this in its current work plan (cf. decisions of UNCCD COP 14).</p>	<p>Thank you. The project has included these recommendations and envisaged a variety of means for sharing the lessons learned and knowledge making them publicly available. The lessons learned and best practices will be compiled, collated, and packaged into several formats (e.g., project web site, brochures and flyers, electronic forms, short videos, and impact documentaries) that are geared towards specifically targeted groups and audiences but also to general public, using community groups and/or NGOs to assist in capturing lessons learned and best practices. The project will also support the participation of government, private, and community stakeholders in conferences to share experiences, best practices, and lessons learned about biodiversity conservation and SLM/water management in production landscapes, and in global/ regional forums with for information exchange. Knowledge exchange at regional level will engage the national representatives in IFAS and the project’s support to the set-up of a Special Platform for Multilateral Cooperation and Information Sharing on environment and water issues.</p> <p>Knowledge sharing at regional level will be aligned with the national priorities within the framework of the Joint Communique of the Council of the Heads of the State-Founders of the International Fund for Saving the Aral Sea (2018), under the Regional Environmental Protection programme for Sustainable Development of Central Asia (REP4SD CA) adopted by the Ministers of Environment of Central Asia States in Nukus, Uzbekistan (2019) and under the Aral Sea Basin Assistance Programme 4 (ASBP-4). Sharing data and planning, harmonizing programmatic initiatives are often considered first steps in building up trust and sustained cooperation among riparian states, as part of water diplomacy.</p>	
<p>Based on lessons learned regarding the integration of LDN in integrated land use planning process, Germany kindly asks the agency to review whether the project is aligned to the timeframe of current land use planning processes and to define concrete entry points into these processes.</p>	<p>Thank you for the recommendation. As suggested, the PPG expert team has been in constant dialogue with the national counterparts during the project development to ascertain the timeliness of the proposed interventions options. The project’s planned interventions at policy level, consulted with the national counterparts are the following:</p> <p>1)The project will support the <i>Action Plan to Combat Desertification</i> (led by the government).The project will provide technical expertise and technical inputs into the development/update of the Action Plan to Combat Desertification, to include the project’s results on the <i>regional LDN target setting</i> process;</p>	

	<p>2) The project will develop gender-sensitive bylaws to the <i>Law on Pastures</i> in order to include pasture use regulations and institutional arrangements for mandatory pasture use monitoring responsibilities at local level (this activity will build on the previous GIZ supported pasture law amendments under the “ Sustainable and Climate Sensitive Land Use for Economic development in Central Asia” (2008-2015).</p> <p>3) The project will further support amendments to the <i>Land Code</i> in order to introduce the definition of the LDN concept and means to implement it through mandatory integrated land use planning, that will provide for the neutrality mechanisms and “counterbalancing” of newly degraded areas by restoring land that is already degraded, which is what distinguishes LDN from existing strategies to combat land degradation.</p>	
France		
<p>Interesting project considering the importance of integrated land and water resource management for the region, the Aral Sea Basin being strongly affected. The project is also contributing to preservation/restoration of ecosystems and biodiversity. The project does plan to adapt integrated management practices to the nature of the land (irrigated agriculture, pasture, critical ecosystems).</p> <p>However, France has some reservations on the management of irrigated land: the project description suggests that the preferred approach for improving water use is more efficient irrigation techniques. It seems essential to integrate at least an assessment of agricultural water needs and the possibilities of adapting crops and other practices to limit the need of water.</p>	<p>Thank you for these comments and positive review of the project. Indeed, as suggested the project includes a comprehensive problem assessment including a climate risk assessment on water resources in the targeted districts in Dashoguz and Lebap provinces, aiming at planning the scarce water resources and promoting irrigation and crop farming practices that will reduce the water consumption and soil salinity.</p> <p>The project approach is based on Integrated Water Management resources (IWRM) and include extensive consultations with counterparts in Uzbekistan. The problem assessment will cover both supply and drainage canals, irrigation and other on-farm management practices such as irrigation scheduling. Working with the State Committee on Water Resources and with the land-melioration expeditions, the project will collect and analyze data on the current water supply patterns and water use among different sectors, current needs of agriculture sector and volumes and timing of water releases, actual condition of collector-drainage network and soil salinization on irrigated lands in the targeted districts and on the targeted areas (100,000 ha). Then, the project will ensure the completion of Baseline analysis and dissemination of the results to different stakeholders as widely as possible, including Uzbekistan water managers and the representatives of the Amudarya Water Organization¹³⁸ to ensure a critical feedback to the registered problems. The Baseline assessment will include: analysis of the growing demand of irrigation water; water use patterns and water wastage; water needs among different sectors and reconciliation; gender perspective- the differentiated water use</p>	<p>GEF-UNDP Project Document Output 1.3</p>

¹³⁸ <http://www.icwc-aral.uz/bwoamu.htm>

	<p>and needs among men and women; water deficits and impact on water dependent ecosystems; water deficits under predicted climate change scenarios and highlighted vulnerability towards water scarcity (especially vulnerable are the women, youth and other marginalized communities or impoverished families among a community); analysis of soil salinity and humus content in the targeted areas through soil samples. In addition, hydroclimatic scenarios and water economic models (water supply scenarios for irrigated agriculture and biodiversity) will be analyzed to establish optimized water allocations among multiple users under different climate change scenario. Based on the problem assessment and prioritized climate risks assessments, several objectives and recommended actions will be identified and agreed within the Working Group and the project will facilitate consultation with the main stakeholders, with national and regional water management representatives including the water managers involved in the water allocation in Uzbekistan, aiming at securing consensus over proposed solutions. The prioritized climate risks will be followed by identification of SLM and adaptation measures that will address these risks and will consider unique risks by vulnerable groups including women. Clear measures for sustainable agricultural practices that will improve soil condition (and therefore will be compatible with the LDN regional targets) and will use water efficiently in irrigated areas will be identified; The technical proposals on irrigation system improvements, as well as analysis of benefits in terms of water conservation, energy conservation and land reclamation will be agreed upon.</p>	
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**STANDARD LETTER OF AGREEMENT BETWEEN UNDP AND MINISTRY OF
AGRICULTURE AND ENVIRONMENT PROTECTION OF TURKMENISTAN FOR THE
PROVISION OF SUPPORT SERVICES TO**

**“Conservation and Sustainable Management of Land Resources and High Nature Value
Ecosystems in the Aral Sea Basin for Multiple Benefits” (Project ID # 00122633)**

Dear Mr. Allanur Altyyev,

1. Reference is made to consultations between officials of the Government of *Turkmenistan* (hereinafter referred to as “the Government”) and officials of UNDP with respect to the provision of support services by the UNDP country office for nationally managed programmes and projects. UNDP and the Government hereby agree that the UNDP country office may provide such support services at the request of the Government through its institution designated in the relevant programme support document or project document, as described below.
2. The UNDP country office may provide support services for assistance with reporting requirements and direct payment. In providing such support services, the UNDP country office shall ensure that the capacity of the Government-designated institution is strengthened to enable it to carry out such activities directly. The costs incurred by the UNDP country office in providing such support services shall be recovered from the administrative budget of the office.
3. The UNDP country office may provide, at the request of the designated institution, the following support services for the activities of the programme/project:
 - (a) Identification and/or recruitment of project and programme personnel;
 - (b) Identification and facilitation of training activities;
 - (a) Procurement of goods and services;
4. The procurement of goods and services and the recruitment of project and programme personnel by the UNDP country office shall be in accordance with the UNDP regulations, rules, policies and procedures. Support services described in paragraph 3 above shall be detailed in an annex to the programme support document or project document, in the form provided in the Attachment hereto. If the requirements for support services by the country office change during the life of a programme or project, the annex to the programme support document or project document is revised with the mutual agreement of the UNDP resident representative and the designated institution.
5. The relevant provisions of the UNDP Standard Basic Assistance Agreement (SBAA) between the Government of Turkmenistan and UNDP signed on 03.12.1993, including the provisions on liability and privileges and immunities, shall apply to the provision of such support services. The Government shall retain overall responsibility for the nationally managed programme or project through its designated institution. The responsibility of the UNDP country office for the provision of the support services described herein shall be limited to the provision of such support services detailed in the annex to the programme support document or project document.
6. Any claim or dispute arising under or in connection with the provision of support services by the UNDP country office in accordance with this letter shall be handled pursuant to the relevant provisions of the SBAA.
7. The manner and method of cost-recovery by the UNDP country office in providing the support services described in paragraph 3 above shall be specified in the annex to the programme support document or project document.

8. The UNDP country office shall submit progress reports on the support services provided and shall report on the costs reimbursed in providing such services, as may be required.

9. Any modification of the present arrangements shall be affected by mutual written agreement of the parties hereto.

10. If you are in agreement with the provisions set forth above, please sign and return to this office two signed copies of this letter. Upon your signature, this letter shall constitute an agreement between your Government and UNDP on the terms and conditions for the provision of support services by the UNDP country office for nationally managed programmes and projects.

Yours sincerely,

Signed on behalf of UNDP
Resident Representative

For the Government

Mr. Allanur Altyyev

Minister of Agriculture and Environmental Protection of Turkmenistan

“ _____ ” _____ 2021

Attachment

DESCRIPTION OF UNDP COUNTRY OFFICE SUPPORT SERVICES

1. Reference is made to consultations between UNDP office in Turkmenistan, the institution designated by the Government of Turkmenistan and officials of UNDP with respect to the provision of support services by the UNDP country office for the nationally managed project “Conservation and Sustainable Management of Land Resources and High Nature Value Ecosystems in the Aral Sea Basin for Multiple Benefits” (Project ID # 00122633), “the Project”.

2. In accordance with the provisions of the letter of agreement signed on *[insert date of agreement]* and the project document, the UNDP country office shall provide support services for the Project as described below.

3. Support services to be provided:

Table 1. DPC amount to be covered by GEF Trust fund:

Support services	Schedule for the provision of the support services	Cost to UNDP of providing such support services per case/person in USD	DPC Total Amount in USD
1. Human Resources			
a) TOR review and post classification + creation	Sep-21	85.72	342.88
b) Advertisement	Sep-21	119.96	479.84
c) Short-listing (including long-listing)	Sep-21	239.92	959.68
d) Writing test preparation (questions)	Sep-21	53.57	214.28
e) Writing test arrangement and administration	Sep-21	91.4	365.60
f) Test Evaluation	Sep-21	88.83	355.32
g) Interviewing	Sep-21	239.92	959.68
h) Reference check	Sep-21	40.06	160.24
i) Review recruitment case	Sep-21	48.61	194.44
j) CRP review	Sep-21	191.7	766.80
k) Contract issuance	Sep-21	93.7	374.80
l) Recurrent personnel management services: staff payroll & banking administration & management (for whole contract period):	<i>Annual fee per employee per year</i>	448.67	1,794.68
<i>Payroll validation, disbursement</i>		157.04	3,140.80
<i>Extension, promotion, entitlements</i>		134.6	2,153.60
Performance evaluation		134.6	2,692.00
<i>Leave monitoring</i>		22.43	448.60
<i>Leave monitoring - Absence data management in Atlas only</i>	Yearly	5.7	114.00
l) Staff HR & Benefits Administration & Management (<i>one time fee, per staff. Services incl. contract issuance, benefits enrollment, payroll setup - this price applies to the separation process as well</i>)	Yearly	205.66	822.64
Total			16,339.98
2. Finance			
a) Payment to vendor and staff	Daily/Monthly	38.49	14,818.65
- Urgent payments to vendor and staff (within 1 day)	Ad hoc	76.98	384.90
b) Issue check only (Atlas Agencies only)	Ad hoc	16.7	167.00
- Issue check only (Atlas Agencies only - within 3 days)	Ad hoc	25.05	250.50
c) Vendor profile only (Atlas Agencies only)	As per the working plan	20.66	206.60
AR Management Process (create/apply receivable pending item- Atlas Agencies Only)	As per the working plan	35.6	178.00
d) Journal Voucher or General Ledger Journal Entry (GLJE)	Quarterly, yearly	35.67	178.35
e) PCA reports review and certification	As per the working plan	25.8	129.00

f) F10 Settlement -simple	As per the working plan	23.12	485.52
g) F10 Settlement - Complex	As per the working plan	33.66	336.60
j) Issue/Apply Deposits Only	As per the working plan	21.74	108.70
Total			17,243.82
3. Procurement			
a) Procurement not involving CAP - below US\$ 50,000			
-Identification and selection	As per the working plan	282.29	2,822.90
- Issue Purchase Order	As per the working plan	41.95	419.50
- Follow-up	As per the working plan	41.95	419.50
b) Procurement process involving CAP (and/or ITB, RFP, requirements) - above US\$ 50,000)			
- Identification & selection	As per the working plan	489.45	1,957.80
- Contracting/Issue Purchase Order	As per the working plan	104.07	416.28
- Follow-up	As per the working plan	104.07	416.28
c) Consultant recruitment			0.00
- Advertising	As per the working plan	36.11	144.44
- shortlisting and selection	As per the working plan	157.13	628.52
- Contract issuance	As per the working plan	72.22	288.88
d) Procurement involving RACP (goods, services & consultant > US\$150,000)			
- Identification & selection	As per the working plan	582.33	0.00
- Contracting	As per the working plan	60.67	0.00
- Issue PO	As per the working plan	48.01	0.00
- Follow up	As per the working plan	60.67	0.00
e) Asset disposal involving CAP	By the closure of the project	275.14	0.00
Total:			7,514.10
4. Admin Support			
Issue/Renew IDs (UN LP, UN ID, etc.)_UPL	Yearly	38.2	764.00
Registration for stay in TKM	As per the working plan	71.83	718.30
Custom Clearance- Diplomatic cargo	As per the working plan	332.46	1,662.30
Visa request (excl. government fee)	As per the working plan	59.55	595.50
Ticket request (booking, purchase)	As per the working plan	71.79	717.90
Miscellaneous Letters	As per the working plan	12.55	276.10
Total:			4,734.10
Total DPC			45,832.00

The Maximum DPC amount to be covered by GEF is US\$ 45,832.00

Annex 22: *Co-financing letters (please see separate attachment)*

Annex 23: Legislative and Institutional Context

Legal, Policy, and Institutional Framework related to Water, Land and Biodiversity Management

Water management

The Water Code

The Water Code (2016) is the main national legislative act in the field of water regulation. This comprehensive law defines conditions for water use and water management in Turkmenistan, especially in agriculture. Notably, it contains progressive provisions, which UNDP projects helped develop, for encouraging innovation and conservation – including the gradual introduction of water metering and tariffs, and the affirmation of the legal status of water user groups, a promising new model by which smallholder farmers can organize themselves, together, for planning and project implementation. The key issues under the Water Code are to increase the value of water resources; protect water from pollution and depletion; prevent and eliminate the negative effects on water; restore and improve the condition of water bodies; and improve the water resources management (WRM), with the introduction of modern approaches. The objective of the *Water Code* is to achieve and maintain an ecologically safe and economically optimal level of water use and ensure water protection to improve the living conditions of the population and preserve the environment. The provisions of the Helsinki Convention and its requirements of IWRM and basin management have already been taken into account to a certain extent in the Code of 2016. The inclusion of general principles of the water management to the national water legislation system is already a big step towards sustainability. However, the existing procedures are not yet sufficiently enough, taking into account the annual water deficit that the country confronts in dry years.

Land, pasture, forests management

The Land Code

The Land Code (2004) stipulates that land shall be public property protected by the state and shall be rationally and efficiently managed. It regulates land relations and applies to natural and legal foreign and domestic persons and to foreign states and international organizations. Land legislation shall provide for: (a) regulation of land relations with a view to the rational and efficient use of land resources; (b) implementation of state programmes for the management and protection of land resources; (c) land use planning, keeping the state land cadastre and land monitoring; (d) establishing the grounds for origin, change and cessation land ownership, land tenure and lease; (e) creation of the rights and obligations of landlords, tenants and lessees; (f) measures to improve soil fertility and conserve the environment; and (g) creation of conditions for the equitable development of all forms of land tenure. The Act consists of eight sections: (1) general provisions; (2) land fund; (3) state regulation of land relations; (4) allotment of land plots to natural and legal foreign and domestic persons and to foreign states and international organizations; (5) land ownership; (6) land tenure; (7) leases; and (8) ownership rights to land plots, tenants and lessees. The Land Code contemplates the following forms of land tenure: (a) ownership; (b) tenancy; and (c) lease. Land plots may be allotted in ownership to citizens of Turkmenistan, and may be allotted in permanent or temporary land tenure (tenancy) to natural and legal persons of Turkmenistan. Land plots may be allotted in lease to natural and legal persons of Turkmenistan and of foreign states, as well as to foreign states and international organizations.

In the Land Code (2004), an important place is given to pastures (Articles 59 and 66), according to which, pasture lands should be provided to citizens for grazing livestock for use and rent, considering the feed capacity of pastures, livestock, irrigation of pasture lands. “Users and tenants of rangelands are obliged to take measures to preserve and improve them, combat wind and water erosion, desertification, construction and reconstruction of water sources, adhere to pasture rotation, and also to prevent pasture degradation”

Law on Pastures

The Law on Pastures was adopted in 2015. According to the law, pastures or rangeland is part of agricultural land owned by the state and used for grazing and other purposes. Pastures are the property of the state, are under its protection and cannot be transferred to private ownership. Pastures can only be transferred for use and lease on the conditions and in the manner determined by this Law and other regulatory legal acts of Turkmenistan (Article 5, Part 1-2). Lands of the forest fund of Turkmenistan, particular/specific areas of protected areas and lands of other categories can be allocated for grazing livestock (Article 7, Part 1).

The most important features of the Law on Pastures include the following: (i) The Law guarantees the right to pastures for all pasture users (state, private and collective). An overview of various pasture management systems in the context of property right shows that today’s priority is public pasture management, which is the key to effectiveness. Public

management promotes animal mobility compared to long-term lease of pastures, which usually limits livestock movement within a given territory. In Turkmenistan, the state is also involved in livestock raising, which also contributes to livestock mobility. (ii) The Law does not encourage a specific pasture management system, but offers various systems for sustainable pasture management with the participation of private, individual and collective pasture users. The Law provides for equal and fair access to pastures for all users (state and private livestock owners), giving them equal rights and enabling them to create associations of pasture users. The main objective of the Law is to provide access to pastures and in many respects to facilitate the related procedure. (iii) The Law promotes the environmentally sustainable use of rangelands on the basis of high mobility (movement) of livestock, which reduces the load on pastures and prevents their degradation. For this, the Law contains provisions on pasture rotation, moving livestock outside the designated pasture lands, and even distribution of livestock across pastures. In addition to that, the environmentally sustainable use of pastures is supported by the provision on paid use of pastures and short-term lease agreement based on pasture management plans.(iv) The Law lays down important elements targeting adaptation to climate change. (iv)Finally, the Law on Pastures was developed in full accordance with the Turkmenistan Land Code which provides the legal framework for the control, management and distribution of pasture lands, as well as the legal regime for pasture use, the rights and obligations of land (pasture) users, etc.

However, the Law lacks some of the necessary bylaws that will render these aspects functional. Institutional arrangements for monitoring the pastures use are lacking. At the local level, there are no formal structures for pasture management, and there are no formal links between local governments and pasture users. According to the Pasture Law, the primary users who have been allocated large areas of pastures on a long-term rent are state livestock farms or daikhan associations. Secondary users are livestock tenants on these farms or private livestock owners and herders who use these pastures. In previous years, the boundaries of the Gengesh and Dayhan associations usually coincided, so in the 2015 Pasture Law, the basic unit of pasture management was set at the Gengesh level. However, most of the pastures previously allocated to farmers'/daikhan associations were merged and redistributed to a small number of large livestock farms, some of which occupy the entire etrap (district) territory. This has completely changed the pasture distribution scheme that was originally established by the Pasture Law. State-owned enterprises, which have their own livestock, manage, and regulate the use of pastures for their own livestock, without caring for private livestock breeders. At the same time, farmers' associations (private tenants) also graze state animals based on lease agreements, according to which they are provided with access to pastures for grazing both state livestock and their own. Some state-owned enterprises also provide grazing land for other residents' private animals. These grazing areas are usually located close to settlements, and the number of livestock per unit area is very high.

The Forest Code

The Forest Code regulates relations concerning sustainable forest management – conservation, protection, management and reproduction of forests. Forest legislation shall be based upon the following principles: (a) sustainable forest management, conservation of biological diversity and increase of forest potential; (b) conservation of protective and recreational functions of forests; (c) multi-purpose and rational management of forests; (d) increase of forest productivity; (e) protection and conservation of forests; (f) classification of forests by purposeful use; and (g) payment for the use of forests and forest resources (Art. 4). The Act consists of 12 Sections divided into 68 articles: (1) general provisions; (2) forest fund; (3) classification of forests; (4) state forest management; (5) state forestry supervision; (6) ownership and management of forest fund; (7) monitoring, forest organization, forest registration and forest register; (8) afforestation and reforestation; (9) compensation; (10) conservation and protection of forest fund; (11) dispute settlement and liability; (12) international cooperation. All the forests located on the territory of Turkmenistan, independently of the category of land on which they are located, shall form forest fund (Art. 8). Forests shall be classified as follows: (a) protection forest; (b) special purpose forests; and (c) production forest (Art. 11). State forest service shall be the authorized state institution in the sphere of forestry carrying out the following functions: (a) enforcement of forest legislation; (b) protection of forests and prevention of forest fires; (c) supervision over hunting; (d) pest control; (e) contrasting illegal logging; and (f) supervision over state, management and reproduction of forests (Art. 21).

Biodiversity management

The Law of Turkmenistan "**On Nature Protection**" defines legal, economic and organizational framework for nature protection aimed at ensuring environmental safety, preventing the harmful effects of economic and other activities on ecological systems, preserving biological diversity and rational use of natural resources. In accordance with the Law, the list of natural objects subject to protection from destruction, degradation, depletion, damage, pollution, irrational use and other harmful effects has been expanded to include land, soil, subsoil, surface and underground waters, forests, flora and fauna,

ecological systems, atmospheric air, climate and ozone layer of the Earth. Objects of nature protection that have special ecological, scientific and cultural significance, as well as specially protected natural areas (Article 5, Part 1-2) are subject to special protection. It is important to note that for the first time soils, ecological systems and climate are included among the natural objects subject to protection in the Law and, accordingly, the necessary requirements for their protection are provided.

The Law "**On Specially Protected Natural Areas**" of May 19, 1992, and in a new edition of March 31, 2012, as amended on August 18, 2014, is the main legislative act that underpins the legal basis of the Protected Areas system in Turkmenistan. This Law regulates relations in the field of organizing the management, protection and use of PAs that are of special nature conservation, scientific, cultural, aesthetic, recreational and health-improving value.

The main principles of state policy in the field of protected areas are the following:

- 1) development of a system of SPAs, ensuring the conservation and restoration of biological diversity, ecological systems, unique and typical landscapes.
- 2) public administration and control in the area of PAs;
- 3) sustainable use of SPAs for the development of science, culture, education, ecological tourism and harvesting natural resources;
- 4) responsibility for violation of the legislation of Turkmenistan in the field of PA;
- 5) participation of citizens and public associations in solving the problems of protection and use of PAs;
- 6) access to information about protected areas;
- 7) international cooperation in the field of PA, etc.

The Law has largely expanded the categories of PAs, providing for the possibility of creating such varieties as state biosphere reserves and national parks of nature. Moreover, such a list in the Law is open. The legislation of Turkmenistan may provide for other types of PAs, such as wetlands of international importance; key bird areas; unique natural water bodies or their parts and others. This latter aspect in particular is important, as the KBAs/IBAs could be grouped under one of the categories for an increased protection status.

According to the Law, the PA system in Turkmenistan can be subdivided into the categories of international, state and local value. The provision of the Law on the allocation of an international category of SPA is enshrined in it for the first time. This enables the country to join the global international network of protected areas. These include such specially protected natural areas that have universal value in terms of ecology, science, culture, aesthetics and recreation.

Such a wide variety of categories and types of SPAs, enshrined in the Law and other regulatory legal acts, make it possible to largely increase the areas of SPAs. To ensure special conservation and protection from adverse external impacts, protective zones are created around the SPAs. They are created without fail around the state nature reserves and state biosphere reserves.

In the Code of Turkmenistan "**On Administrative Infractions**", the updated version of which was introduced in January 2013, Chapter 11, consisting of 65 articles, is fully devoted to environmental protection, including the functioning of SPA networks. The Code pays significant attention to the protection of flora and fauna. Violations of environmental legislation, in particular the damage caused to nature, may entail administrative and sometimes criminal liability. Claims for damage to flora and fauna on the territory of reserves and other SPAs of Turkmenistan can be quite impressive. Of course, penalties are a last resort, and more often violation prevention takes place and is applied.

Law of Turkmenistan "**On Environmental Information**" on March 14, 2020, defines the legal, organizational, economic, and social basis for the availability of environmental information for legal entities and individuals and the entire population.

In general, the current legislation of Turkmenistan in the field of biodiversity conservation, including normal functioning of the PA network, basically meets the requirements of today, although there are certain gaps.

National programmes

The **National Program of Socio-Economic Development of Turkmenistan for the period 2011-2030**, approved by the Decree of the President of Turkmenistan No. 11061 dated May 14, 2010, provides for such tasks as bringing the SPA network in accordance with international standards and expanding their territory, preserving flora and fauna and the development of basic research.

The National Strategy of Turkmenistan on Climate Change, approved by Decree of the President of Turkmenistan No. 12366 dated June 15, 2012 (updated - revised version approved by Presidential Decree No. 1415 dated September 23, 2019), considers the main measures for adaptation to climate change in various sectors of the country's economy. According to the strategy for the implementation of preventive measures to increase the resilience of ecosystems to climate change, with the following main highlights:

- Improvement of the financing system for specially protected natural areas (SPAs) with the introduction of innovative sources of financing.
- Increasing the economic potential of PA by reforming the system of specially protected areas, expanding their total area, creating national parks and introducing alternative sustainable financing mechanisms.
- Implementation of biodiversity management objectives in the economic sector, so that production processes support the functions of natural ecosystems.
- Elaboration of a program for the development of the PA system.
- Development of tariffs for services provided by specially protected natural areas.

The **National Forestry Program of Turkmenistan**, approved by the Decree of the President of Turkmenistan No. 12768 dated January 11, 2013, outlines the implementation of activities to improve the ecological situation in the territory affected by the Aral crisis. In particular, for the period from 2013 to 2020, in the west of Dashoguz velayat in the vicinity of the Botendag upland, work on afforestation of 20 thousand hectares, primarily with desert plant species has been successfully implemented.

The Program of the President of Turkmenistan for social and economic development of the country for 2019-2025 was approved by the Decree of the President of Turkmenistan No. 1111 as of February 1, 2019. The 5th chapter of the Program, entitled "Rational use of natural resources, nature protection, combat against global climate change", emphasizes that in order to increase resilience of the environment, including ecosystems to climate change, along with the improvement of environmental legislation, the PA network will be reformed.

The **Development Program of the Agronomic Complex of Turkmenistan for 2019-2025** emphasizes that digital technologies will be actively introduced in the field of ecology, waste treatment, and a state information system will be created in the management of the SPA network.

Turkmenistan became one of the first countries in the world to start consultations in 2015 on adapting the Sustainable Development Goals (SDGs) to the national economy. On November 17, 2017, a Resolution of the President of Turkmenistan was adopted to approve the institutional structure of the SDG monitoring system in Turkmenistan. As part of the SDGs implementation, about 170 indicators were adopted, including such indicators for Goal 15 as the Red List Index and Progress towards achieving national targets set in accordance with Aichi Target 2 on Biodiversity under the Strategic Plan for Biodiversity for 2011-2020. Currently, work is underway on these indicators in relation to the achievement of the corresponding SDG 15 targets.

International conventions and obligations of Turkmenistan on biodiversity conservation

International commitments

In 1996, Turkmenistan joined the Convention on Biological Diversity, demonstrating its proactive position in addressing global issues of conservation of biodiversity components and commitment to environmentally sustainable and safe development. In order to fulfill the provisions of the Convention, Turkmenistan cooperates both at the regional level with the Central Asian and Caspian countries, and at the international level. According to the obligation of the Parties to the CBD, since 1996, the country has submitted to the CBD Secretariat 5 National Reports on the state of biodiversity of Turkmenistan, the last one - the Sixth National Report in 2018. In 2002, the National Biodiversity Strategy and Action Plan (NBSAP) was developed for the period up to 2010.

In 2015, within the framework of the GEF/UNDP joint project, the National Strategy and Action Plan for Biodiversity Conservation of Turkmenistan (NBSAP-2) was developed, initially calculated for the period from 2016 to 2020. However, the document has been revised several times taking into account state programs for the socio-economic development of the country and has not yet been approved at the state level. The current NBSAP's timeline is 2018-2023. The project is directly supporting the implementation of Turkmenistan's NBSAP 2018-2023 aligned with a) Goal II "Sustainable use of biodiversity and habitats influenced by anthropic" particularly Objective 3 "By 2023 develop and adopt a long term programme for sustainable management of natural pastures"; Objective 5 "By 2023 develop and start implementing

programs for rational use of water resources of Turkmenistan, which include biodiversity” and Target 6 “ By 2023, develop and implement sustainable use of water and biological resources”; and b) Goal IV “Development of natural protected areas for improving environmental protection and socio economic benefits “, Target 10 “ By 2023, effective management of the protected territories will be significantly strengthened”.

Turkmenistan has also ratified the UNESCO Convention on the Protection of the World Cultural and Natural Heritage (1994), the UN Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (1996), Convention on Wetlands of International Importance, mainly as habitats for waterfowl, or the Ramsar Convention (2008) and the Framework Convention for the Protection of the Marine Environment of the Caspian Sea or the Tehran Convention (2004).

In 2020 Turkmenistan has ratified a number of international agreements, including the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention, or CMS) and the Agreement on the Protection of African-Eurasian Migratory Waterbirds (AEWA).

Turkmenistan has signed several memoranda under the Bonn Convention, such as the Memorandum of Understanding on Conservation Measures for the White Crane or Siberian Crane (*Grus leucogeranus*) (1998); the Memorandum of Understanding on the Conservation and Restoration of the Bukhara Deer (*Cervus elaphus bactrianus*) (2002) and the Memorandum of Understanding and Action Plan for the Conservation, Restoration and Sustainable Use of Saiga antelope (*Saiga tatarica tatarica*) (2006) and fulfills its obligations under them.

The current environmental legislation defines the basic principles of nature protection, the obligations of land and pasture users, including the conservation of biodiversity, prevention of land desertification and pasture degradation. However, there is no separate (special) document, with the exception of the Red Book of Turkmenistan, which takes into account the issues of biodiversity conservation in territorial planning.

In 1996 Turkmenistan has ratified the UNESCO Convention on the Protection of the World Cultural and Natural Heritage; it joined the Convention on Biological Diversity (CBD) and the Convention on Combating Desertification (CCD) in 1996, Ramsar Convention in 2008. Among recent progress was the accession by Turkmenistan to the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes in August 2012, which has been important for ongoing regional efforts to restore the Aral Sea Basin and most recently the ratification of the Convention on the Conservation of Migratory Species (CMS) in August 2020. According to UNECE First Environmental Performance review, the legal norms on environmental protection are contained in the Constitution, the 1991 Law on Nature Protection, and laws on air protection, ecological expertise, biodiversity conservation and land water, forest and mineral resources. Legislation on the use and protection of certain components of the environment is codified: Land, Water and Forest are in force. Some of the most important environmental or environment related laws were adopted before 2000 and are therefore in need of update and modernization. These legal acts lack sections on terminology and principles of State policy in the relevant area and do not provide clear allocation and separation of the powers of central executive bodies. Often, there is no secondary legislation that renders the law operational¹³⁹.

Institutional framework

Institution	Legislative mandate
Ministry of Agriculture and Environmental Protection	The Ministry of Agriculture and Environmental Protection coordinates activities in the implementation of state policy in the field of agricultural development and food security, it provides forward-looking forecasting and analysis of agricultural development, as well as measures for the implementation of scientific research. The Ministry is responsible for the protection of ecosystems, protection of surface and ground water resources and monitoring of the environment, climate and natural resources, including the development and implementation of state programs and measures in the field of environmental and hydrometeorological activities, the organization of monitoring of the atmosphere, marine environment, surface waters (water bodies), crops and pastures, implementation of organizational, technical and methodological management of subordinate units; ensuring the

¹³⁹ UNECE First Environmental Performance Review

Institution	Legislative mandate
	development and operation of a system for collecting, storing, processing, analyzing and disseminating information; and preparation of draft regulations, state standard norms, methods and other mandatory requirements in the field of agro-ecological activities.
Ministry of Foreign Affairs	The Ministry of Foreign Affairs is the central government institution charged with leading the country's foreign policy.
State Committee for Water Resources	State body charged with the management of the water sector in the country, which consists of industrial associations, institutions and other enterprises and organizations. It exercises control over all water management structures of the country: hydraulic engineering facilities, dams, reservoirs and irrigation networks, inter-district and inter-farm canals and reservoirs, complex hydraulic structures, etc. The State Committee for Water Resources is responsible for the regulation and distribution of water resources, the construction and operation of inter-farm hydraulic structures, the development of new and the reclamation of existing irrigated land.
Turkmen Agricultural Institute, Dashoguz city	A university that trains specialists in the field of agriculture: agronomy (specialties: agronomy; agroecology (agricultural ecology); agro-chemistry and soil science);zootchnics and veterinary medicine (specialties: veterinary medicine); hydro reclamation and mechanization of agriculture (specialties: operation of irrigation and drainage systems; mechanization of agriculture; hydro reclamation (water resources and management); organization and technology of technical service). The research and production center is conducting selection work to create high-yielding, disease-resistant, new varieties of agricultural crops adapted to the soil and climatic conditions of the country.
Turkmen State Pedagogical Institute named after S. Seydi, Turkmenabat	The Historical and Geographical Faculty of the Institute trains geographers, the Center for Natural Sciences and the Scientific Experimental Center "Priroda" conduct research on the chemical composition of mineral waters and medicinal plants and their medicinal properties, as well as on the protection of cotton, grain and ornamental plants of Eastern Turkmenistan from pests and disease.
Engineering and Technological University of Turkmenistan named after Oguzkhan	<p>The Institute was established in 2016 and operates on a self-supporting basis. Teaching is conducted in Japanese, English and Turkmen. The University plays a special role in the development of international relations in the field of science and education. In 2018, an agreement on bilateral cooperation was concluded with the Oguz Khan University of Engineering Technologies and the Bukhara Engineering and Technological Institute.</p> <p>The university has 5 research centers, 5 faculties and 15 departments, including:</p> <ul style="list-style-type: none"> Department of Industrial Ecology and Biotechnology Department of Chemical Technologies Department of Earth Science Department of Information Systems and Technologies (GIS. Digitalization in all areas of the economy) <p>At the beginning of 2019, the Institute of General and Applied Biology was included in the Oguz Khan University of Engineering Technologies of Turkmenistan</p>
Turkmen Agricultural University named after S. Niyazov	<p>Turkmen Agricultural University Named after SA Niyazov is the largest higher education institution in Turkmenistan. This university only provides studies in the fields of agriculture.</p> <p>The university consists of 16 departments, including the Department of Computer Technology. Main directions: Agricultural machinery, Irrigation and hydraulic engineering, Cotton, Graining,</p> <p>Livestock, Processing of agricultural products.</p> <p>The University organizes courses on various aspects of water management, pumping station operation, agriculture and water management, provides expert and advisory support to promote sustainable development of the agro-industrial complex and is an active participant in creating international platforms for achieving the SDGs in agriculture.</p>

Institution	Legislative mandate
Turkmen State Water Management Research, Production and Design Institute "Turkmensuvlymtaslama" State Committee for Water	Organization, implementation and implementation of industrial and scientific developments in the main areas of the water management of Turkmenistan: hydraulics of irrigation canals and other water management structures; reclamation of irrigated lands, ecology of reclamation activities; improving the irrigation regime and irrigation technique for agricultural crops, developing water-saving irrigation technologies; practical implementation of measures to provide the population with high-quality drinking water.
National Institute of Deserts, Flora and Fauna of the MAEP	Leading institute in Turkmenistan for research in the field of combating desertification, arid research, forestry and pasture management, remote sensing, the use of saline waters, research and classification of dry soils, fixation of dunes, climatology, etc.
Dayhanbank	Providing bank financing for agricultural purposes in general and for individual farmers, in particular, is the prerogative of the state bank Dayhanbank. Loans to farmers are allocated exclusively through the Dayhanbank for the implementation of special government programs. For strategically important agricultural crops, loans are provided at a rate of 1% per annum, and since 2008, all agricultural producers could receive a privileged loan for a period of 1 to 10 years at a rate of 5% per annum. The Daihan Association creates special insurance funds with agricultural producers to ensure loan repayment.
Union of Industrialists and Entrepreneurs of Turkmenistan	It is a public organization uniting industrialists and entrepreneurs engaged in entrepreneurial activities on the basis of private ownership, designed to express and protect the rights and legitimate interests of its members, to promote the development of entrepreneurship in Turkmenistan. The union supports Turkmen companies and entrepreneurs in increasing productivity and increasing turnover. Union experts are involved in the development of proposals for local authorities in order to create more favorable conditions for the activities of entrepreneurs throughout the country. They have their own bank "Rysgal" bank, their own newspaper "Rysgal", their own school of entrepreneurship (in all regions of the country). They operate within the framework of the law "On the Union of Industrialists and Entrepreneurs of Turkmenistan", adopted in October 2019.
Nature Conservation Society of Turkmenistan	The public organization was founded on its founding meeting in 1968 in Ashgabat. Since 1978 he is a member of the International Union for Conservation of Nature (IUCN). Has a Central Board and velayat branches.
Society of Hunters and Fishermen of Turkmenistan and its velayat divisions	Monitoring the state of wild animals, including birds, participation in activities to preserve biodiversity
Velayat (administrative-territorial unit at the regional level)	Velayat is an administrative-territorial unit at the regional level. The leaders of the velayats ("khyakims") are appointed by the President of Turkmenistan. The khyakimlik of the velayat is responsible for the coordination of planning, financing, implementation and monitoring of socio-economic development, and the provision of public services in the territories within the region.
Etrap (administrative-territorial unit at the district level)	Etrap is a second-level administrative unit in Turkmenistan. The head of the etrap (khyakim) is appointed by the President of Turkmenistan. The etrap khyakimlik is responsible for coordinating the annual work planning, budget allocation, implementation and monitoring of social and economic development measures in cities and villages within the etrap.
Gengeshi (local government bodies) and Gengeshlik	Gengesh is the representative body of the people's power. In accordance with the Constitution of Turkmenistan, the gengesh performs the functions of local self-government, being the representative body of people's power in the territory of the city within an etrap, settlement or village. The territory of one village or several villages forms Gengeshlik, where gengesh is created. On the territory of a gengeshlik, there may be one or several daikhan associations, joint-stock companies and cooperative enterprises functioning as subjects of entrepreneurial activity.
Daihan (farmer) associations and livestock associations	Daihan associations and livestock farms are users of state agricultural land distributed among tenants for cultivation. Daykhan Association is a legal entity that organizes the production of

Institution	Legislative mandate
	agricultural products based on mixed (joint) ownership. All tenants have a lease contract for land (including land, livestock and other assets) with a merger. Secondly, they are the body responsible for maintaining the rural infrastructure in the villages, and they receive a certain fee from tenants (as a percentage of production proceeds) for these services. Third, they are a conduit for transferring government orders (for growing wheat and cotton) to tenants and enforcing compliance with these orders on leased land.
Dayhan farms	Daihan farm is an agricultural enterprise established by members of one or more families for the joint management of agricultural production. The Daihan economy is based on private property and is independent in terms of functioning and management. The products produced by the farmstead, including the products produced by the lessee in excess of contract volumes, remain at his disposal and do not depend on the market value.
Scientific Information Center (SIC) ICSD	The Interstate Commission on Sustainable Development (ICSD) is responsible for coordinating and managing regional cooperation in the field of environmental protection and sustainable development of Central Asian countries. SIC is the executive body of the ICSD with branches in each of the IFAS member states.
Dashoguz branch of EC IFAS	The Executive Committee is the working body of the International Fund for Saving the Aral Sea, an international organization supported by the governments of the Central Asian countries. The Executive Committee of IFAS (EC IFAS) works to develop cooperation in the Region in the field of water resources and environment management.
Central Amudarya department of BWO "Amudarya" ICWC	The Amu Darya Basin Water Management Association (BWO) is responsible for the operational management and regulation of water resources between states, timely and uninterrupted water supply to water consumers within the established limits (agreed with the states), and the supply of sanitary and ecological releases to the Aral Sea zone and the Aral Sea. The Central Amu Darya Department controls water withdrawals on the 552 km section of the Amu Darya River, between the gauging stations of Kelif and Darganata. The Department has 9 large river water intakes.
Academy of Sciences of Turkmenistan	<p>The Academy of Sciences of Turkmenistan is an organization that is a conductor of the scientific and technical policy of the state, is engaged in the development and implementation of the latest technologies, systematically implements state programs of scientific and technical development. The main tasks of the Academy of Sciences are:</p> <ul style="list-style-type: none"> - implementation of scientific and technical policy of the state in all areas; - forecasting the development of science, technology and technology, defining priority areas, including problems of ecology and the Aral Sea region; - increasing the efficiency of research work, ensuring the introduction of scientific achievements into production and coordinating the implementation of scientific and technical programs; - organizing, conducting and searching for ways to finance fundamental and applied scientific research, experimental design and technological developments in order to meet the requirements of various sectors of the economy; - training of highly qualified specialists in various fields; - development of international cooperation in the field of science and technology.

Annex 24: List of Baseline Programmes and Projects

A key baseline initiative is the overall body of work and regional efforts for restoration of the Aral Sea, coordinated through the **International Fund for saving the Aral Sea (IFAS)**. IFAS contributes to the sustainability of the Aral Sea basin through the Aral Sea Basin Programme that serve as an umbrella for the relevant national programmes and projects and donor funding. In 2018, Turkmenistan hosted the Summit of Heads of the State-Founders of the International Fund for Saving the Aral Sea with the participation of the presidents of all five Central Asian countries. The Heads of states have jointly discussed the wide range of cooperation issues and noted the need to consider the possibility of developing the UN Special Program for the Aral Sea Basin (there is no consensus yet on the document). Among international environmental programs of the Aral Sea Basin an important baseline programme is the Action Program to Assist the Countries of the Aral Sea Basin (ASBP). ASBP-4 is aimed at uniting efforts and potential of the regional states and international community in solving common priority water management, environmental and socio-economic issues of the Aral Sea Basin.

The **Regional Environmental Program for Sustainable Development in Central Asia (REP4SD CA)**, aims at the implementation of the Sustainable Development Goals (SDGs) and UN environmental conventions, development of “green” economy principles and climate change adaptation. REP4SD CA is the strategic document for the period until 2030 that was developed in the framework of revising the previous Regional Environmental Action Plan for Central Asia.

The project is aligned with the priorities under the current Aral Sea Basin Programme (ASBP-4) and the REP4SD CA. The potential synergies will be explored under the following national priorities:

- **Water Resources:** ensuring effective water quality monitoring, including the monitoring of water turbidity on the flow of Amu Darya River; exchange of technologies and experience in restoration and conservation of water-related ecosystems.
- **Climate change:** development of climate scenarios for the Central Asian region; preparation of the Regional Strategy on Climate Risk Reduction in Central Asia; improving education, preparation of qualified staff and public outreach on the issues of climate change.
- **Desertification and biodiversity:** implementation of the Sub-regional Action Programme to Combat Desertification, making the functioning of Central Asian wetlands sustainable by implementing best practices for their management; restoring the Tugai forests of the Amu Darya Valley; creating the Red Book of Central Asia; studying traditional methods of conservation and rational use of genetic resources; developing and implementing methods to prevent the introduction of alien species.
- **Cooperation, science and technologies:** develop cooperation between Central Asian countries in the fields of science, technology and innovative technologies; strengthen the institutional capacity of regional cooperation organizations to facilitate the implementation of national plans aimed at achieving the Global Goals for Sustainable Development, including their indicators.

The **National Program of Socio-Economic Development of Turkmenistan for the period 2011-2030** is another baseline state programme. The main goal of the program is to achieve high growth rates of macroeconomic indicators of the country's economy, its constant growth, to bring the socio-intellectual level of the population to the level of developed countries of the world. The program includes relevant components, such as the “Ecology and environmental protection” component, which defines the priorities in the field of environmental protection, reflecting environmental problems at the national level and their solution. In particular, this component provides for measures to protect rare and endangered species of flora and fauna (conservation of biodiversity); preservation of unique natural monuments; afforestation and reforestation; suspension of desertification processes, etc. This programme represents a source of co-financing of the project in relation to *Outcome 2 “Secured biodiversity status in 500,000 ha KBAs in the Amudarya basin as evidenced by: non-deterioration of globally threatened species, including Egyptian vulture, Saker falcon, Dalmatian pelican, Houbara bustard, Cinereous vulture, Ferruginous duck. Management effectiveness increased for targeted protected areas from 20% to 40%. New protection mechanisms established covering additional 60,000 ha of currently unprotected KBAs, increasing PAs coverage of KBA are in the target landscape by approximately 5%”*. Approximately \$82,860 pledged co-financing under this programme is directed towards building the PAs infrastructure.

The **Program of the President of Turkmenistan for the socio-economic development of the country for 2019-2025** provides for specific directions and measures for environmental and foresees a range of activities to improve the status of land and water management practices. This government investment program is a major source of project co-financing, as the

program goals align fully with the project. Under the programme, special attention will be given to the measures in the Aral Sea basin, and work of the IFAS. Provisions for the development of large and small water storage facilities, increasing capacity of existing large reservoirs, renovation of existing and construction of new irrigation and drainage canals, as well as careful utilizations of water by application of modern technological solutions are listed as investment priorities. Within the framework of the Program for the development of the Dashoguz velayat, an investment is envisaged for a total amount of \$ 2.34 billion, of which 48.4% will be directed to production. For the development of the Lebap velayat , there is approximately \$ 9.1 billion investment envisaged, of which 87.6% will be directed to the development of production. The total amount of investment foreseen under this programme between 2019-2025 is approximately \$ 65,500 million. This programme represents the main co-financier of the project in relation to *Outcome 1, Land degradation neutrality in Aral basin promoted, as evidenced through: (i) LDN-compatible land use in 746,303 ha of production landscape; (ii) crop resilience to salinization improved in 10,000 ha (iii) 60,000 ha of degraded pasture, forest and arable land restored; (iv) improved livelihoods of 9750 farmers (30% women) with immediate replication potential for 100,000 people.* Part of co-financing dedicated to improving pasture watering infrastructure in production zones will relate to *Outcome 2.* The co-financing is pledged as follows (i) approx. \$11.4 million in co-financing to this project will be directed towards renovation of existing irrigation system, bank protection and flood control measures along Amudarya River (100.13km) in Lebap region (ii) approx. \$9.8 million of pledged co-financing to this project will be directed towards the reclamation of irrigated land in Lebap region and \$22.7 million in Dashoguz region; (iii) approx. \$4.55 million of pledged co-financing to this project will be directed towards the construction of observation wells to measure the salinity and level of groundwater and (iv) approx. \$8.82 million towards watering infrastructure of 3,380 thousand hectares of pastures.

In the **Program for the Development of Agriculture of Turkmenistan for the period 2019-2025**, of the total number of planned activities, an important place is given to environmental issues, including environmental protection and ensuring the environmental safety of industrial production, the development of a system of protected areas and the preservation of biodiversity, environmental protection issues in the Turkmen sector of the Caspian Sea, the implementation of the National Strategy of Turkmenistan on climate change, implementation of the National Forest Program, implementation of international environmental cooperation of Turkmenistan, research and practical activities in the field of nature protection. For the development of the country's agricultural complex, the Program provides for a financial investment in the targeted provinces in amount of 6.8 billion manats or \$1.94 billion. The total amount of investment foreseen under this programme between 2019-2025 is approximately \$ 8,017 million.

The National Forestry Program of Turkmenistan was adopted with an Action Plan for the period **2013-2020**. The program focuses on forestry issues, forest protection, their rational use and restoration. It is part of a larger government program to plant tens of millions of trees near cities, towns and other localities. In the program, separate sections are devoted to the restoration and preservation of desert and tugai forests, the species of woody plants for the restoration and enrichment of the species composition of these forests are identified. Currently, a new National Forestry Program (NFP) of Turkmenistan for the period 2021-2030 is being prepared. The main objective of NFP is the conservation and rational use of forests and, thereby, ensuring the further development of sustainable forest management. The project will build synergies under the programme. There are plans to expand greening areas and continue to create optimal environmental conditions in the country, especially relevant for the project Outcome 1, is the cultivation of desert saxaul forests in the north of the country on the territory of the Dashoguz velayat in the Aral Sea influence zone, expanding nurseries, growing planting material on modern technologies.

UNDP/Adaptation Fund Project “Scaling Climate Resilience for Farmers in Turkmenistan” implemented in partnership with the Ministry of Agriculture and Environment Protection, with a budget of \$ 7,000,040 aims at building resilience to climate change among the emerging class of small and medium size private farmers in Turkmenistan, including women farmers, strengthening the agriculture extension services and transitioning towards resilience agriculture practices. Due to ample synergy between the two projects a number of joint activities will be organized such as: the trainings of 50 extension officers and joint awareness sessions. The knowledge generated under both projects will be shared through the online platforms to be set up by the Adaptation Fund project.

Central Asia regional Environmental Center (CAREC) **“Climate Adaptation and Mitigation Programme for Aral Sea Basin (CAMP4ABS)”** 2016-2021, with a budget of \$15 million and implemented in partnership with the WB and EC IFAS, with the objective of solving general problems and challenges related to the climate change effects in Central Asian countries through improving access to the knowledge and data in the field of climate change for the key stakeholders, as well as through

increasing investments and technical capacity development. The project will build on the KM approaches and platform set up by CAREC in the implementation of the Knowledge Management Plan.

The Project of the Federal Ministry for Environment, Nature Conservation and Nuclear Safety of Germany (BMUB): **Central Asian Desert Initiative (CADI) – Conservation and sustainable use of deserts in Turkmenistan**, implemented by Ministries of Agriculture and Environment Protection of Turkmenistan, Kazakhstan, Uzbekistan, Michael Succow Foundation and University of Greifswald (Germany), (with a total budget of € 3 280 963) during 2019-2021. The project aims to assist the biodiversity conservation and development of desert ecosystems’ functions in Turkmenistan; preparation of scientific-technical rationale for the inclusion of desert ecosystems into the UNESCO World Heritage List; delivery of events for the management improvement and territory expansion of one of the existing desert protected areas; technical support and delivery of joint field researches, training of protected area’s staff, dissemination of acquired knowledge and public outreach. The project’s strategy builds on some of the results of CADI project and good practices in the inventory of wild ungulates, inventories of flora and fauna conducted in Gaplangyr Reserve and the knowledge generated during the process of nomination of the deserts of the temperate zone of Central Asia for inclusion in the UNESCO World Heritage List.

The new GIZ Programme **“Integrative and Climate sensitive land Use in Central Asia”** 2021-2024 will further promote the ILUMA (Integrated Land Use Management Approaches) and will focus particularly on ensuring that integrative land use approaches are better anchored at national and regional levels. The GEF project will coordinate with the new GIZ programme and will explore the possibility of the organization of joint capacity building events targeting Integrated LDN compliant Land Use Management Planning.

This project will coordinate the generated knowledge and exchange research findings with the GEF/UNDP International Waters Project **“Strengthening the Resilience of Central Asian Countries by Enabling Regional Cooperation to Assess High Altitude Glacio-nival Systems to Develop Integrated Methods for Sustainable Development and Adaptation to Climate Change”** (GEF ID 10077). The opportunities for knowledge exchange will be used by both projects to strengthen the knowledge base for the achievement of results. The project-born research findings will contribute to the GEF/UNDP International Waters project specific focus on assessing the water flow of Amudarya River especially considering the climate change water shortage predictions. Turkmenistan is one of five countries part-taking in this regional project that will promote and facilitate the establishment/strengthening of national and regional glacier centers and with an eye towards continuously assessing current and future water flow in key rivers, including the Amu Darya, Syr Darya and the Illi River. Both projects will involve IFAS organization, which will further support the coordination. The GEF/UNDP International Waters regional project is fully coordinated with IFAS and will deliver national action plans informed by inter-ministerial dialogues and knowledge and data exchanges and may provide key building blocks for other planned/ongoing projects specific to increasing climate change adaptation and informing management practices.

Annex 25: Note on the dissolution of daikhan associations (DAs)

The President of Turkmenistan, Chairman of the Khalk Maslakhaty (People's Council) Mr. Gurbanguly Berdimuhamedov signed a Resolution "On Further Improvement of Reforms in the Agricultural Sector". This Resolution proposed the transfer of farmland for long-term lease to private management: "... on the provision of land plots from agricultural land fund being specially created to joint-stock companies of Turkmenistan, daikhan farms, other legal entities and citizens (hereinafter - commodity producers) for use for up to 99 years".

At the same time, private owners are obliged to grow crops (cotton and wheat) on 70 percent of the land according to the state order. On the remaining 30 percent of the land, farmers will decide for themselves what to plant. The Resolution also mentions the creation of a special agricultural land fund from the lands of daikhan associations located near the velayat (province) centers and the allocation of land plots to commodity producers in accordance to the established procedure for growing vegetable and melon products, potatoes, grapes, fruits and processing of grown products. The land will be transferred to private ownership in several stages. Special commissions that will be created locally to consider applications from citizens wishing to engage in agricultural business will deal with long-term lease issues.

In pursuance of the Presidential Resolution in order to create a special land fund for agricultural purposes, the Khyakim of Dashoguz velayat took the decision to dissolve a number of daikhan associations on August 27, 2020. According to this document, the selected sites in the priority etraps (districts), and agreed upon by signing the Protocol with the khyakimlik, have undergone the following changes:

- Ak Altyn DA of Saparmurad Turkmenbashi etrap is transferred to Ashir Kakabaev DA of the same etrap.
- Ashik Aydin DA is joined by Shasenem and Tuniderya DAs. Similarly, newly decided DAs boundaries of the territories of legal successors of the disbanded daikhan associations will be determined.

The local PPG specialists were advised by the representatives of local authorities (Oct 2020) and that by 2023 all daikhan associations will be re-organized (some will be dissolved; some others will be merged). The most significant changes are expected in 2021. Therefore, the local authorities had advised the PPG team to decide on the final selection of the daikhan associations during the inception phase in order to adjust to the upcoming changes. The same changes are expected in all velayats (provinces), including Lebap.

Annex 26: LDN Check List

Note: The project design has been based on the **LDN Checklist developed by UNCCD** (<https://www.thegef.org/documents/checklist-land-degradation-neutrality-transformative-projects-and-programmes-draft>). Summary of project's adherence to the checklist:

Criterion A: Fundamental LDN principles:

- **Use landscape approach:** Amu Darya river basin landscape (pls. ref Part II Target landscape profile (Annex 6) , and maps).
- **Promote no-net loss:** Component 1 includes activities to set the no-net-loss target for the landscape and action plan to attain it.
- **Avoid-reduce-reverse hierarchy.** The project stems from integrated planning (Output 1.1 that will define areas where productivity loss is going to be avoided, as well as areas that need mitigation or restoration. Concrete investment in restoration is all about the nature of Outputs 1.2, 1.3, and 1.4).
- **Contribute to sub-national targets.** Under Component 1, the project sets up a regional (landscape-based) target and implements key activities to trigger its achievement.
- **Be site/country-tailored.** The project has been fully tailored to the national and landscape context.
- **Include LDN monitoring system:** present as part of Output 1.1 (act. 1.1.4).
- **Gender considerations and stakeholder engagement:** Addressed in detail under the Gender Action Plan (Annex 18).

Criterion B. Deliver multiple benefits.

- **Link to multiple SDGs, focal area benefits and sustainable livelihoods.** This is the essence of the project, its rationale, objective and design are fully in line with the multiple-benefits philosophy.
- **Provide economic incentives to local actors:** The project incentivizes local actors away from destructive behavior through engaging them in alternative economic activities (e.g. Output 1.2 and 1.4), as well as biodiversity-friendly livelihoods under Output 2.3.
- **Base land decisions on the "assessment" approach.** The integrated and multi-stakeholder nature of land use planning is fully evidenced by Output 1.1.

Criterion C. Promotion of inclusive governance

- **Safeguard land rights of local users.** As explained in the description of Output 1.1, the idea behind the integrated land use planning is exactly about ensuring that the rights of land users are respected while enabling them to derive maximum long term benefits from use of ecosystem products and services. UNDP has a Social and Environmental Safeguard Procedure (SESP) which screens projects (including for this criterion) and does not allow projects that do not comply.
- **Ensure prior informed consent;** avoid forced displacement; put in place grievance redress mechanism. Addressed through UNDP SESP protocol (Annex XX).
- Define gender responsive engagement. Addressed through the Gender Action Plan (Annex 18)

Criterion D. Promotion of scaling out.

- **Employ science-based approaches and local knowledge.** The project is going to be only based on proper science and consideration of established good practices in development of all of its outputs.
- **Apply innovation.** Addressed under Output 1.2.
- **Capture and disseminate knowledge.** Knowledge capture, dissemination and practical use is covered in Component III and in the Knowledge Management Plan (Annex 19)

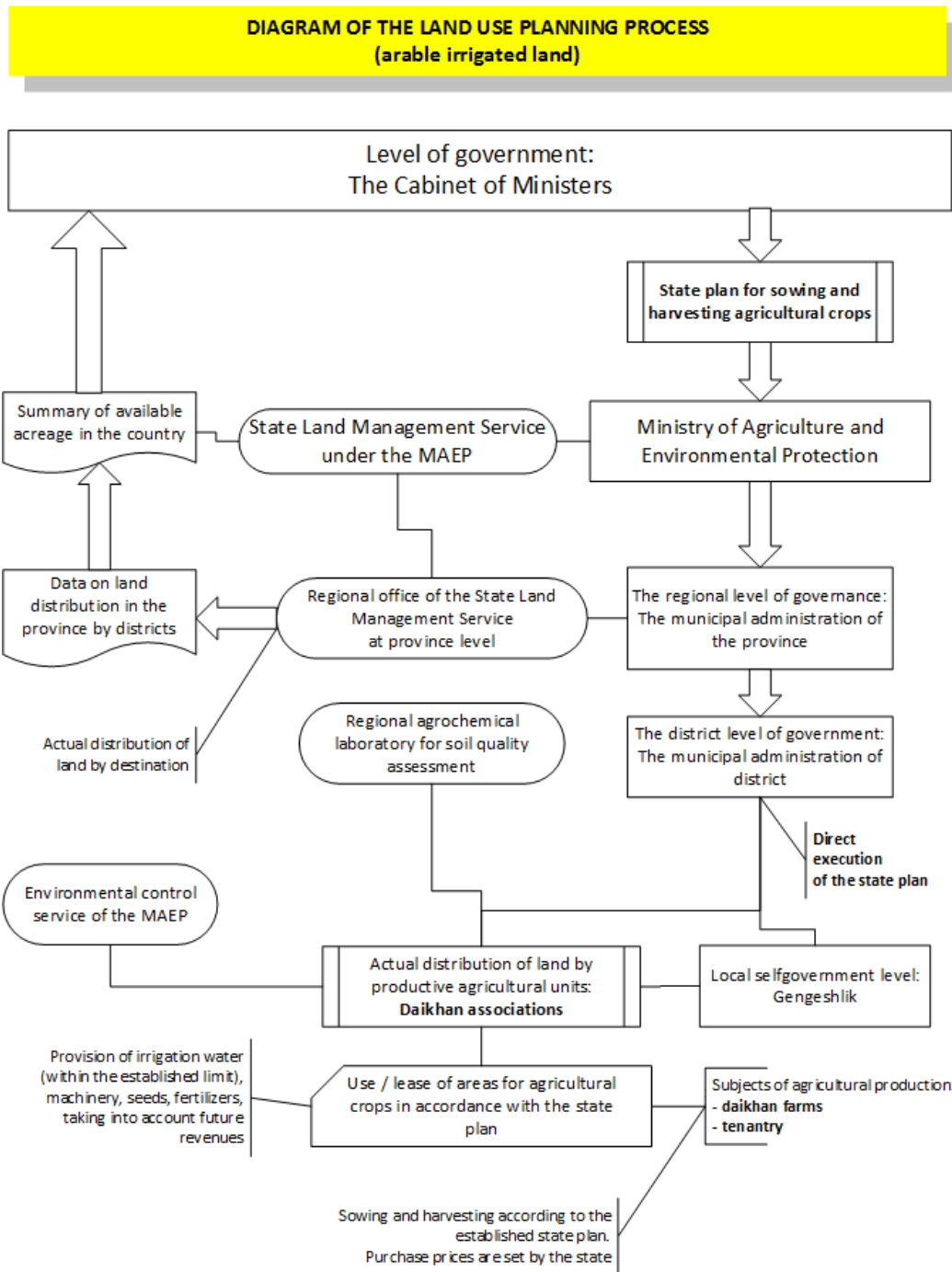
Criterion E. Enhance national ownership and capacities.

- Employ awareness raising, public campaigns, education and capacity building. The project does this through Output 1.1, as well as through the fact that implementation of investment activities (e.g. Outputs 1.2, 1.3, 1.4) are clearly vested in the current national baseline programs and co-financing. Education and awareness raising are part of Component III.
- **Identify and obtain co-financing.** This is addressed as part of a GEF standard for ensuring co-financing.
- **Ensure sustainability.** Addressed, as per sustainability sub-section.

Criterion F. Promoting innovative financing.

- **Include/prepare for a component that leverages private sector mobilization.** The project does this, within the limitations of the concrete country, as further discussed in the LDN Financing Brief (Annex 11)
- **Foster income generation for communities.** The project creates alternative income generation through saxaul and buckthorn plantations, introduction of salt-tolerant crop, engagement in regeneration of tugai forests, as well as improved livestock productivity resulting from sustainable pasture management (Outputs 1.2 and 1.4 and 2.3).

Annex 27: Land use planning scheme in Turkmenistan





United Nations
Convention to Combat
Desertification



TURKMENISTAN NATIONAL FOCAL POINT OF UNCCD

15, Bitarap Turkmenistan Str., Ashgabat, 744000
"21" 12 20 20

Phone: (99312) 940282, Fax: (99312) 940282
E-mail: durikov@mail.ru

To: Ms. Louise Baker
Managing Director of the Global Mechanism
for the United Nations Convention for Combat Desertification

Subject: Participation in the Land Degradation Neutrality (LDN)-Target Setting Programme

Dear Ms. Baker,

On behalf of the Ministry of Agriculture and Environment Protection of Turkmenistan, I sincerely express my gratitude to the Secretariat and Global Mechanism of the UN Convention to Combat Desertification for cooperation on realization of Convention in Central Asia and in Turkmenistan.

We would like to kindly request the consideration to include Turkmenistan to the list of participants of the Land Degradation Neutrality – Target Setting Programme. Currently, the Government of Turkmenistan in partnership with UNDP is preparing a technical proposal for the Global Environment Fund (GEF), which will promote LDN-compliant measures for the sustainable management of land resources and advance its attempts to reach the Goal 15.3 in Turkmenistan. In this regard, we kindly ask the Global Mechanism to provide with methodological and financial support to enable the country to set up national voluntary LDN targets.

Taking this opportunity, I would like once again express assurances of my highest respect to the UNCCD Secretariat and Global Mechanism.

Sincerely yours,

Dr. Durikov Muhammet

National Focal Point
for UNCCD in Turkmenistan

Director of the Scientific-Information Center
of the Interstate Sustainable Development Commission
of International Fund for Saving the Aral sea



Date: 14 January 2021
Ref: GM/LB/CM/tp/196
Cc: JA, PL

Dear Dr. Durikov Muhammet,

Subject: Expression of interest to participate in the Land Degradation Neutrality Target Setting Programme

With reference to your letter dated 21st December 2020, I wish to thank you for the expression of interest submitted by Turkmenistan to set voluntary Land Degradation Neutrality (LDN) targets. By participating in the LDN Target Setting Programme (TSP), spearheaded by the UNCCD Global Mechanism, Turkmenistan would be joining a growing number of countries embarking on this exciting journey.

The LDN target setting process represents a significant opportunity to leverage existing national sustainable development policies and commitments, engage relevant stakeholders, generate multiple environmental, social and economic benefits, and tap into increased financing opportunities. The programme is being implemented in collaboration with 18 international partners and, to date, has supported over 120 countries in setting national voluntary LDN targets. The LDN TSP is an important first step towards identifying transformative projects and programmes to achieve LDN. Please find further information at our website: <http://www2.unccd.int/actions/ldn-target-setting-programme>.

The UNCCD Secretariat and the Global Mechanism can offer a package of technical and financial support to define the national LDN baseline and associated targets to achieve LDN by 2030. Our support will be facilitated through the LDN TSP Team and it will include a person specifically designated to work with you, your team and other relevant national actors. Initial background information is annexed to this letter.

We are fully committed to supporting Turkmenistan throughout the process. A member of the Global Mechanism LDN TSP team will shortly communicate with your office to provide further details and to explore opportunities to kickstart our collaboration.

Yours sincerely,

Louise Baker
Managing Director

Dr. Durikov Muhammet
Director of the Scientific-Information Center of Interstate Sustainable Development
Commission of International Fund for Saving the Aral Sea (IFAS),
Turkmenistan
Email: durikov@mail.ru

Annex 29: PCAT and HACT (please see separate file)

Annex 30: Environmental and Social Management Framework (ESMF) (please see separate file)