



UNITED NATIONS DEVELOPMENT PROGRAMME

PROJECT DOCUMENT

TURKMENISTAN

«Strengthening National Capacity for Seismic Risk Assessment,
Prevention and Response to Potential Earthquakes»

PROJECT DOCUMENT
Turkmenistan



Empowered lives.
Resilient nations.

Project Title: Strengthening National Capacity for Seismic Risk Assessment, Prevention and Response to Potential Earthquakes

Project Number:

Implementing Partner: Institute of seismology and physics of the atmosphere of the Academy of Sciences of Turkmenistan

Start Date: January 01, 2018 **End Date:** December 31, 2020

Brief Description

The project "Strengthening National Capacity for Seismic Risk Assessment, Prevention and Response to Potential Earthquakes" aims at supporting the Institute of seismology and physics of the atmosphere of the Academy of Sciences of Turkmenistan in the development and implementation of a complex strategic approach for forecasting and assessing seismic hazards and risks in Turkmenistan. The project will assist the Government of Turkmenistan in strengthening the capacity of authorities affiliated with the preparation and response to emergencies in general. The main priorities of the project are as follows: (1) comprehensive assessment of seismic risks in Ashgabat based on scientific and technical approaches, (2) integrated development of the Institute of seismology and physics of the atmosphere of the Academy of Sciences of Turkmenistan aimed at updating and modernizing the methodological, scientific and technical and human resources, (3) increasing the readiness level of the relevant agencies to respond to disasters caused by earthquakes, as well as the updating of national plans and strategies aimed at reducing disaster risks.

The project will combine the best available approaches to disaster risk reduction in Turkmenistan with modern and innovative methods for assessing seismic hazards and risks for further replication and use in the country.

<p>Contributing Outcome No. 2 (UN Partnership Framework Document # 6): National policies, legislative and institutional frameworks respond to climate change issues by helping to create climate resilience, adaptation, climate risk management and disaster risk reduction measures at the sectoral and community level Expected results of the UNDP Country Program for Turkmenistan: 2.3. The number of legal documents in the field of disaster risk reduction (DRR) has been approved/ is in the implementation phase, appropriate financial and technical measures have been developed, qualitative sectoral plans that incorporate gender adaptive practices in DRR and include relevant cross-sectoral coordination mechanisms on DRR (Outcome 6.3 of the country program))</p>	Total resources required:	2,087,329.00 USD	
	Total resources allocated:	Government:	2,027,329.00 USD
		UNDP:	60,000.00 USD

Institute of seismology and Atmospheric Physics of the Academy of Sciences of Turkmenistan	UNDP
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Abbreviations

EMCA	Earthquake Model of Central Asia
CAIAG	Central-Asian Institute for Applied Geosciences
CIS	Commonwealth of Independent States
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
GEM	Global Earthquake Model
GFZ	German Research Centre for Geosciences (GeoForschungsZentrum)
GMS	General Management Support
IPE	Institute of Physics of the Earth of the Russian Academy of Sciences
ToR	Terms of Reference
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNICEF	United Nations' Children Fund
WHO	World Health Organization

I. SITUATIONAL ANALYSIS

Overview and challenges

Turkmenistan is one of the most earthquake-prone countries not only in the Central Asian region, but also in the world. Studies show that the Kopetdag mountain system that separates Turkmenistan and Iran has a high seismic activity which is confirmed, in particular, by the devastating earthquake of 1948 in Ashgabat with a magnitude of 7.3, which resulted in the death of about 80% of the local population. This fact is also confirmed by the Institute of seismology and Atmospheric Physics of the Academy of Sciences of Turkmenistan, which annually registers up to 6,000 seismic events in the framework of seismic monitoring of the earth's crust.

There are other examples of catastrophes other than the Ashgabat earthquake that occurred in Central Asia in the last century and led to serious or catastrophic destruction of urban infrastructure, and, most importantly, to human losses. For example, these are the earthquakes in Almaty (formerly Vernyi) and Tashkent. The analysis showed that the main problems were the lack of state measures aimed at preparing for emergencies, insufficient raising of the population's awareness, as well as partial ignoring of construction norms and rules (where applicable at that time).

Earthquakes occur unexpectedly and constantly, and this fact underscores the need for permanent measures aimed at DRR in parallel with the development processes. Otherwise, the whole level of development can be thrown back by one emergency or their cascade.

Currently, large social and economic investments, large-scale construction on the territory of Turkmenistan, as well as intensive urbanization cause increased attention to regular and potential seismic events and to DRR as a whole. Due to their geographic location, territorial organization and rapid economic growth, the major cities of Turkmenistan, and in particular the capital city of Ashgabat, are subject to earthquakes. In case of a catastrophe the negative impact can spread to the whole country and even beyond it. The risk of a devastating earthquake has a potentially huge negative impact on the dynamics of the country's development.

Starting points of cooperation and linking with national priorities

Also, taking into account the city development concept¹ developed and implemented under the leadership of the Head of State, which implies the creation of the highest level of comfort and security for residents of the capital, major construction projects, as well as existing housing stock, require increased attention to seismic engineering, seismic risk analysis and the development of appropriate plans.

In order to ensure the full implementation of Turkmenistan's development goals, the Government of Turkmenistan has begun developing a focused agenda that will allow the country to become more sustainable in the face of potential natural and man-made emergencies. To this end, the Government of Turkmenistan and UNDP have reached an agreement on strategic integration of efforts for capacity building in disaster risk management in the country.

Thus, in September 2016 the Government of Turkmenistan has undertaken to implement 17 Sustainable Development Goals, among which 6 goals have direct or indirect relation to prevention and response to emergencies.

At the state level the processes of monitoring of seismic activity, seismic microzoning and assessment of seismic hazard are the main functions of the Institute of seismology and physics of the atmosphere of the Academy of Sciences of Turkmenistan (hereinafter - the Institute of seismology). However, despite its functionality, for more effective implementation of these works there is an urgent need to improve institutional capacity, update the existing and apply new techniques, technologies and measures to strengthen predictive and analytical work in order to prevent and respond to potential earthquakes. Assessment of seismic hazard and risk is a prerequisite for any subsequent socio-economic planning and application of measures aimed at preparing for earthquakes.

¹ An integral part of the Program of Social and Economic Development of Turkmenistan for 2018-2024, which will include industry plans, incl. urban development (currently in preparation).

The main difficulties in planning the construction, as well as in assessing seismic risks in Ashgabat, are complex geotechnical and seismological conditions that are caused by the presence of structurally unstable soils and a high level of groundwater. Seismic waves caused by earthquakes pass through rock to ground structures, in which seismic action varies depending on the characteristics of the ground and affects the behavior of buildings and other infrastructure on the surface. These prerequisites stipulate the introduction and application of modern research techniques for soils, as well as the existing housing stock, in particular, obtaining comprehensive information on their resonance and frequency characteristics. At present, the map of the amplitude-frequency characteristics of the soil is an important component for seismic microzoning of the territory of cities and is taken into account in the building regulations of many developed countries.

Despite the constant measures taken by the Government of Turkmenistan, as well as by the relevant ministries and agencies, on strengthening the country's potential in the field of DRR, many issues of preparedness and minimization of losses in cities in case of catastrophic earthquakes have not been adequately and completely resolved up to date. So, maps of complex seismic microzoning of large cities have not been updated, there are no modern developed plans for responding to a catastrophic earthquake, and the increase of seismic resistance of vulnerable buildings is carried out not fast enough.

Not all the developed documentation has reflected the latest scientific and methodological approaches to assessing the risk of catastrophic earthquakes, which does not allow developing comprehensive and long-term measures to prevent and reduce the risk of large-scale secondary/cascade disasters, as well as the justified calculation of the necessary forces and means to eliminate their negative consequences.

Unfortunately, the existing system of earthquake monitoring and forecasting in Turkmenistan does not meet the current requirements for an integrated approach to DRR and reducing vulnerability. The methods of continuous remote sensing or automatic measurement and transmission of data have not yet become a common practice because of the general technological gap of the CIS countries, especially in the scientific fields, which include monitoring and forecasting.

The urgency and complexity of the problem implies an integrated approach to risk reduction. Thus, based on modern methods of obtaining and analyzing information, scientifically based scenarios for the development of disasters and the introduction of best international practices, it is possible to minimize possible losses through the implementation of appropriate measures, as well as to strengthen interdepartmental coordination of state and local executive bodies.

CHALLENGES

Successes achieved by Turkmenistan in the field of social development should be consolidated and continued. For this it is necessary to continue work towards increasing the sustainability of society and the state as a whole to various types of natural hazards, including seismic hazard, which is one of the most important and urgent in the country.

Institutional and legal issues in the field of DRM

- Currently, existing institutional and legal frameworks, as well as mechanisms for DRR in the countries of Central Asia, including Turkmenistan, are focused mainly on responding to emergencies rather than preparing for emergencies and DRR. There is abundant evidence of the economic benefits of specialized programs and strategies aimed at DRR. It has already been established that every monetary unit spent on risk reduction brings at least 4 units of prevented losses from disasters.
- Interagency relations are well established in Turkmenistan, when any actions taken by a ministry require coordination with the State Commission of Turkmenistan on emergency situation and civil defence.

- The existing scientific and technical potential of the country for carrying out research and practical work in the field of seismic risks requires significant and long-term financial investments.

Access to the best international experience in the field of DRM

- Relations with international organizations on the matter of seismic risk assessment are limited: the Institute of seismology, as well as the relevant Office of the Ministry of Defense, are not sufficiently involved in international practice. Their participation in international events is mainly limited to short-term awareness-raising trainings. The existing regional and international cooperation in assessing and reducing seismic risks does not meet modern trends and challenges. Individual contacts exist in connection with participation in joint projects and programs with international donors and other organizations in Turkmenistan, for example, with UNDP, UNICEF, WHO and the Red Crescent Society.
- Up to date, Turkmenistan is not sufficiently involved in global and regional earthquake modeling projects, such as GEM, EMCA and others.

Risk assessment and response mechanisms

- The availability of validated seismic maps, as well as the database of the results of scientific and practical research and geological prospecting is one of the important problems. The information (although not fully) is present in the relevant ministries and departments and its accessibility is a subject of respective regulations.
- Existing provisions on risk assessment methodology are at the initial stage of development. The same applies to communication system and early warning system in emergency situations.

GENDER EQUALITY

Assessment of disaster risks (including seismic risks) provides the necessary information for experts and decision-makers to ensure increased community resilience to cataclysms. Consideration of practical and strategic gender needs in the implementation of activities aimed at DRR is one of the priority areas, as women, men, children and the elderly are vulnerable to disasters to varying degrees. Thus, the project plans to ensure the greatest possible attention to gender equality while strengthening the capacity of relevant state institutions by taking the appropriate measures, and also in developing a long-term strategy for DRR at the national level. For this purpose, the project plans separate targeted activities (gender balance in expert working groups and multilateral consultations, promotion of joint equal participation and contributions of men and women in DRR, covering all sectors of the public, where applicable). The project plans awareness-raising campaigns and the use of relevant gender indicators in the implementation of activities.

II. STRATEGY

This project will be implemented in close partnership with other relevant UNDP projects, in particular the project "Strengthening the capacity of disaster risk management in Turkmenistan". The project will provide comprehensive support to the Institute of seismology and Atmospheric Physics under the Academy of Sciences of Turkmenistan in the development and implementation of a complex strategic approach for forecasting and assessing seismic hazards and risks in Turkmenistan. Also, the results of the project activities will support other Ministries and agencies working in the field of seismic risk assessment, construction, education and training and emergency response in the development of long-term strategies, tools and activities aimed at DRR.

Objective of the project

The main objective of the project is to strengthen the country's capacity to assess seismic risks, as well as to prevent and respond to potential earthquakes and associated cascading emergencies. Pilot activity will be worked out on the territory of Ashgabat (or some of its regions) for the subsequent application of successful practices and approaches in similar work on the territory of other settlements of Turkmenistan subject to seismic risks.

The project strategy and its specific approaches will be directed to the following activities in Ashgabat:

- **Conducting a probabilistic assessment of seismic hazard in Ashgabat** using existing data sets, as well as information obtained through modern scientific and practical methods. The UNDP project team together with the Institute of seismology, CAIAG and IPE will carry out a comprehensive work aimed at updating the existing data, as well as obtaining new maps for creating and updating seismic zoning maps and other activities.
- **Conducting a comprehensive seismic risk assessment in Ashkhabad** by analyzing the characteristics of the buildings of the most common types of housing stock, as well as the soil of their development areas. In conjunction with the Institutes of Seismology and Earthquake Engineering, as well as the attracted specialists of CAIAG, the UNDP project team will conduct an analysis of the degree of exposure to the risk of the most representative types of housing stock and administrative buildings based on the amplitude-frequency characteristics of buildings and grounds.
- **Development and modernization of the material and technical base of the Institute of seismology.** Within the framework of the project and in order to increase the capacity of the Institute of seismology, UNDP will purchase the necessary office (laboratory), as well as scientific and technical equipment for seismic surveying, monitoring and research of the vulnerability of living quarters and critical facilities.
- **Strengthen the capacity of research institutes, a number of ministries and other stakeholders in the assessment of seismic hazard, exposure, vulnerability and risk** through the organization of trainings and seminars, as well as the transfer of necessary technical knowledge and modern techniques in cooperation with CAIAG, IPE and, if possible, with GFZ and other organizations carrying out their activities in the field of seismic risk analysis and related areas.
- **Development of dynamic scenarios for the development of emergencies and responses.** The UNDP project team in cooperation with the Institute of seismology and the Civil Defense and Rescue Department of the Ministry of Defense of Turkmenistan will develop scenarios describing the dangers to the population and the economy, assessing the vulnerability and determining the potential losses and damage in case of an earthquake of design strength over several time intervals based on the application of modern methods of microseismic zoning and assessing the stability of buildings.
- **Development of a number of effective mechanisms and implementation of practical steps to prevent, monitor, alert and reduce the severity of the effects of potential earthquakes** (mitigation events), based on scientifically grounded risk assessment. The Institute of seismology will analyze the data obtained as a result of the project work and will prepare specific recommendations for reducing seismic risk for some classes of critical infrastructure for further transfer to relevant bodies and potential implementation and replication in Turkmenistan.
- **Preparation of recommendations/plans for the development/updating of a long-term strategy for reducing seismic risk at the national level** based on the results of the activities undertaken. The UNDP project team together with the national partners of the project will prepare recommendations on making additions to the national DRR strategy and/or other national mechanisms and tools (including investment and

educational), based on international experience in assessing and reducing seismic risk and project performance.

- **Monitoring, research and analysis.** The UNDP project team in cooperation with the relevant research institutes of the Academy of Sciences will conduct a technical assessment and evaluation of the financial performance of the project. The results will be included in research and presentation, which will be presented to national institutions and international organizations.
- **Informing.** The UNDP project team and the relevant institutions of the Turkmen Government will conduct information campaigns within and outside the country on the project, its approaches and the results achieved in Turkmenistan.

During the implementation of the project modern methods of information processing, earthquake risk assessment will be tested and implemented in accordance with international practice and standards by involving groups of international experts and leading organizations in the field of seismology. The received information will be brought in clear, accurate and understandable form to all users in order to appropriately take management measures on DRR with a focus on measures to prepare for the response and minimize the consequences of emergency situations, since it is impossible in principle to prevent a strong earthquake.

Within the framework of the project a detailed multi-year action plan for the Institute of seismology will be developed targeted at monitoring seismic hazard of the territory and risk assessment with a special emphasis on priority measures aimed at minimizing the consequences of potential destructive earthquakes. In particular, the plan will address the following issues: development and refinement of seismic zoning maps of various levels (macro, middle and micro), seismic engineering, seismic modeling and scenario planning for seismic risk assessment and management, updating of the regulatory framework and so on.

A number of recommendations will be sent to the relevant Ministries to improve the existing regulatory framework, mechanisms and tools for DRR issues and prepare for potential earthquakes.

The project complies with the principles of the Sendai Framework Program² for DRR and will contribute to the realization of all its priorities in Turkmenistan, namely:

- Priority 1: Understanding Disaster Risk
- Priority 2: Strengthening disaster risk governance to manage disaster risk
- Priority 3: Investing in disaster risk reduction for resilience
- Priority 4: Enhancing disaster preparedness for effective response, and “to build back better” in recovery, rehabilitation and reconstruction

Also, the objectives of the project correspond to the country's development priorities and strategic agreements between the Government of Turkmenistan and UNDP formulated in the cooperation program (2016-2020). Recognizing the importance of DRR, including preparing for emergencies and supporting joint efforts in this area, the Government of Turkmenistan decided to allocate appropriate financial resources for joint implementation with UNDP of tasks and activities in the above directions.

III. RESULTS AND PARTNERSHIPS

Expected Results

In the short term the project will test modern methods for collecting and processing information, assessing the risk of earthquakes in accordance with international standards and bringing this

² The Sendai Framework is the successor instrument to the Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters

information in a clear, accurate and understandable form for all users in order to appropriately take management measures to reduce the disasters risk with a focus on the preparations for the response, since it is impossible in principle to prevent a strong earthquake. In particular, maps of seismic (micro) zonation of various directions and details, models of soil properties distribution, groundwater table, as well as active tectonic faults in Ashgabat will be developed (new) and updated (existing).

In the medium term it is expected that the project will also demonstrate a methodology for developing scenarios describing the dangers to the population and the economy, assessing vulnerability and determining potential losses and damage in case of an earthquake of designed strength over several time intervals, using modern methods of microseismic zoning and assessing the sustainability of buildings.

The developed scenarios will be the main means for selecting the most appropriate strategy and practices for improving the seismic risk management plan (including the emergency response plan). Recommendations for the development and implementation of master plans for targeted settlements will be designed with the aim at reducing the possible losses and damage identified by the scenarios.

Recommendations will also be developed to improve the seismic risk management sector and integrate the best innovative practices into the existing national emergency prevention and response mechanisms.

Within the framework of **long-term planning** and sustainability the scientific and technical base of the Institute of seismology will be strengthened, training methods and materials will be developed to assess earthquake risks for subsequent forwarding to appropriate authorities, replication and use. Also, a long-term DRR strategy at the macro level (including the investment component) will be developed/finalized taking into account the project's work in the field of seismology, disaster preparedness and risk reduction of potential earthquakes at a local and/or national level. Separate recommendations on the implementation of the main information components of the areas covered by the project in various educational programs will be sent to the Ministry of Education to continue strengthening the future human recourses and scientific potential of the country.

The project implies the provision of improved tools and skills for disaster risk management to government agencies and research organizations through a set of training and demonstration practices and activities.

Resources Required to Achieve the Expected Results

The project team will consist of a Project Manager, an Administrative and Financial Assistant working full time, and a team consisting mainly of national and some international experts in the field of seismology, DRR and strategic planning. The project will also support cooperation with CAIAG and IPE in the framework of relevant training and practical work, including temporary import of necessary equipment in Turkmenistan for its testing with a view to further purchase. This project will work in close partnership with other UNDP DRR projects in Turkmenistan and, if possible, in the region to ensure the most effective results and to avoid duplication of activities. With the approval of the Project Board UNDP will hire and manage the members of the project team.

In addition to direct costs aimed at increasing the capacity of the Institute of seismology and implementing the practical component of the work plan, the project budget will cover the costs of personnel and consultants, travel, office supplies, communications and other costs associated with maintaining the UNDP project office.

Partnerships

The main recipient of the project - the Institute of seismology - will be the main partner of UNDP. It will play a leading role in issues related to scientific and technical research and assessment of

seismic hazard in Ashgabat. The Scientific Institute of Earthquake Engineering will also play an important role in assessing the vulnerability of buildings and seismic risk.

The Ministry of Defense, the Ministry of Education, the Ministry of Health and the municipal institutions/municipality responsible for building, planning, and informing the public will be project partners in the relevant areas.

In order to ensure the necessary level of quality and practical implementation of modern international experience and techniques, as well as field work, individual Memoranda of Understanding will be signed with CAIAG and IPE. Within the framework of these Memorandums the organizations will render UNDP and research institutes involved in the project services and personnel training services, conduct a number of works on seismic risk assessment, mapping of active tectonic fault zones, transfer of necessary techniques, methodologies and software, support in supplying the necessary modern scientific and technical equipment, as well as attracting international experts and advisory support.

The project will be implemented in a permanent and close partnership and consultation with government agencies, national and international partners and initiatives that are carrying out their activities in the field of emergency response, training and management. Special attention will be paid to cooperation with JICA on improving the means and methods of earthquake monitoring in Ashgabat and its environs. Also, the issue of cooperation with the Red Crescent Society of Turkmenistan in the field of information dissemination and training in emergency preparedness and first aid will be considered if such activities are approved and included in the work plan for subsequent years.

If necessary, the UNDP Istanbul Regional Hub covering Europe and the CIS countries will be assisted in gaining access to international expertise and practice.

Risks and Assumptions

The improvement of existing mechanisms for assessing seismic risk, as well as the introduction of state-of-the-art modern approaches requires comprehensive work, each stage of which has some degree of uncertainty due to its scientific and technical orientation (selection of specialists, coordination and conduct of relevant research and analysis, procurement of necessary equipment and materials, coordination, etc.) and the lack of capacity in carrying out this type of work. The project takes into account the above difficulties and the possibility of necessary adaptation of activities to actual realities. Experts from the project team will help the Institute of seismology in the coordination, organization of works, as well as the quality control of the implementation of proposed initiatives.

The main risks and the corresponding measures to mitigate them are described below. By involving the necessary stakeholders project staff will ensure that these risks will not impede project implementation:

- **Medium-scale and large-scale natural disasters** - ensuring the participation of partners at the national level in the UN backup planning, as well as ensuring readiness for timely response and continuation of the project implementation;
- **Insufficient level of involvement and coordination of partners at a high political level** - constant public awareness campaign/lobby of the importance of emergency preparedness and backup planning; ensuring the participation of partners in coordination mechanisms;
- **High level of staff turnover in the recipient organization**, which may lead to insufficient support for project initiatives – ensuring the ongoing activities aimed at increasing capacity, including improved procedures for selecting participants in training sessions, seminars and other training activities.

The basic assumptions are as follows:

- The main partners are aware of the importance of project initiatives and fulfill their obligations for systematic coordination of activities, allocate the necessary time and resources for this and remain open to cooperation;
- The level of security in the country does not have a negative impact on the implementation of the project and the involvement of foreign partners;
- UNDP relies on Government's support in matters of attracting specialists from CAIAG, Russian Academy of Sciences, as well as representatives of other foreign institutions and agencies to conduct joint work with the Research Institutes of Turkmenistan and improve the skills of representatives of the project partners.

Stakeholder Engagement

The proposed project is mainly aimed at enhancing Turkmenistan's national capacity to assess seismic risks, prevent and respond to potential earthquakes. All scientific and applied research on seismology shall be carried out by the Institute of seismology, including research on the physics of the earth's crust, seismic monitoring, mapping and seismic hazard assessment. Thus, the Institute of seismology will be directly involved in the project both as the main recipient and as an executive partner. Considering that the results of applied research in the field of seismology should and will be used by a number of other national institutions in their work, the following organizations will also be actively involved in the various components of the project (training, raising awareness, conducting practical works) and in the development of recommendations on the modernization of national mechanisms and tools in the field of DRR:

- Scientific Institute of Earthquake Engineering;
- Ministry of Defense (Department of Civil Defense and Rescue Operations);
- Ministry of Education;
- Ministry of Health;
- Municipality of Ashgabat;
- Ministry of Oil and Gas Industry and Mineral Resources (Exploration Research Institute).
- State Corporation "TurkmenGeology", State Concern "TurkmenGas" (Natural gas Research Institute)

Since the work in this area involves the exchange of different sets of data, as well as the coordination and development of synergies in the preparation and response to emergencies, representatives of the above organizations will additionally be involved in the discussion and replication of best practices in their respective areas, directly or indirectly related to DRR from the very beginning of the project through the organization of meetings, seminars, roundtables and meetings of working groups on various issues.

In order to implement the technical component of the project, as well as the component of increasing the capacity of the staff of the research institutes and ministries, experts from leading organizations that carry out their activities in the field of scientific and applied research will be attracted from CAIAG, GFZ, GEM.

Also, the results of the project will be reflected in informing the population, schoolchildren, business and other socio-economic sectors that are prone to emergencies caused by earthquakes. Thus, the citizens will also be involved in the project as recipients.

Knowledge

Within the framework of the proposed project it is planned to perform a number of works, such as:

- Updated guidance (note, report) on seismic risk assessment;
- Recommendations on introducing changes and finalizing the National Strategy on DRR, as well as other existing and used mechanisms and tools;
- Publications of the research staff of the involved research institutes and the involved experts (including joint) on the work carried out in Turkmenistan/Central Asia;

- Databases of parametric characteristics of investigated objects (faults, ground waters, soils, housing stock, etc.);
- Maps of resonance-frequency characteristics of the objects under study;
- Probabilistic and scenario analysis of emergency situations;
- Other works.

By default, the ownership of the above works and databases will belong to their authors (organizations), but within the framework of national priorities the possibility of publishing and providing relevant products and data to other organizations (including public organizations) will be discussed with the Project Board, and relevant decisions will be adopted based on the results of the meetings.

Sustainability and Scaling Up

Due to the comprehensive assessment of seismic hazard and risk (including the model of susceptibility of buildings to seismic risk), as well as to the designed dynamic scenarios for the development of earthquakes in Ashgabat, the necessary information for updating the relevant documents of a number of ministries and agencies will be communicated to end users. Thus, the Ministry of Defense will be able to update its standby response plan for a catastrophic earthquake, taking into account the potential development of an emergency situation and secondary factors, Ministries of Education and Health will be able to update public information plans and plans for future work.

Since the mechanisms for preventing, monitoring and reducing the severity of the consequences of potential earthquakes will be updated and expanded, a similar work will be introduced into the long-term plans of the Seismology and Earthquake Engineering Institutes in other locations subject to seismic risks.

Recommendations for developing/updating a long-term strategy for reducing seismic risk, as well as the national strategy for DRR, will be taken into account and included in relevant government mechanisms and instruments. Separate recommendations for the inclusion of a seismic risk assessment module in educational programs will be sent to the Ministry of Education for consideration and potential piloting in the city's universities.

In addition to the intellectual and practical components of the project, modern scientific and technical equipment together with the necessary software and methodology for its application is expected to be used even after the end of the project. It is also assumed that the potential of the new research institute staff will continuously improve, ensuring the sustainability of the initiatives undertaken and creating a favorable climate for continuing work, research and further expanding of the use of modern seismic risk assessment techniques, as well as the potential creation of an earthquake early warning system after the project implementation period.

The Institute of seismology and physics of the atmosphere AS of Turkmenistan concluded an agreement with the Japan International Cooperation Agency aimed at strengthening the Institute's research capacity in monitoring seismic activity in the city of Ashgabat. The agreement provides for the purchase and transfer of equipment by the Japanese side, training of Turkmen specialists in monitoring and regular scientific observations of seismic activity on the territory of Ashgabat. In the framework of joint meetings the United Nations Development Program aims to discuss the complementarity and cooperation between the proposed project and actions under the agreement between the Institute of seismology and physics of the atmosphere AS of Turkmenistan and Japan International Cooperation Agency.

IV. PROJECT MANAGEMENT

Project management

The project is a joint initiative of the Government of Turkmenistan and UNDP, for which the following principles of business management apply. As a responsible partner, the UNDP Country Office in Turkmenistan will support the project. As necessary, UNDP provides the following services for the technical execution of the project:

- Preparation of technical specifications for the equipment and goods as required in accordance with the UNDP internal rules and procedures for the procurement of goods and services, incl. selection, conclusion of contracts and communication with consultants and subcontractors. This rule applies to goods and services financed from the budgets of UNDP and the Government of Turkmenistan;
- Purchases and contracts;
- Project budget and project costs;
- Assistance in maintaining contact with national and regional partners;
- Assistance in carrying out activities;
- Supervising the project in terms of accountability, transparency, efficiency and effectiveness;
- Monitoring, evaluation and audit of project activities.

The project will be implemented within the framework of the national level implementation mechanism (NIM). The project will work in close partnership with the UNDP Project on Strengthening Disaster Risk Management Capacity (SDRMC) in Turkmenistan. As the leading national partner and executor of the project the Institute of seismology and physics of the atmosphere AS of Turkmenistan will monitor all aspects of the project implementation. The Institute of seismology and physics of the atmosphere AS of Turkmenistan will appoint an employee who will act as the National Project Coordinator and will be the lead person in charge of overseeing the implementation of the project.

The Scientific Institute of Earthquake Engineering will play an important role in technical research and development of reports, methodologies and recommendations, as well as monitoring and analyzing the activities of the project and its partners.

Overall project management will be carried out by the Project Board, which, in addition to the Institute of seismology and physics of the atmosphere AS of Turkmenistan, will include the following institutions (the structure of the Board may change if necessary):

- Scientific Institute of Earthquake Engineering;
- Ministry of Defense;
- Ministry of Education;
- Ministry of Health;
- Ministry of Construction and Architecture;
- Ministry of Economy and Development.

National Project Coordinator will act as the Chairman of the Project Board of this project only with the assistance of UNDP in organizing and conducting all meetings and other information exchange activities. Meetings of the Project Board will be held as required, but at least once every 6 months.

Main functions of the Project Board:

- Performing the leading role in the project towards the set goals and objectives;
- Strategic decision-making by consensus, including approval of potential changes in the project;
- Approval of work plans and reports;
- Review of project progress, risk management;
- Responding to problems identified by the Project Manager and approving deviations from the initial work plan;
- Risk management and development of the plan aimed at reducing the potential negative impacts of identified risks.

UNDP will join the Institute of seismology and physics of the atmosphere AS of Turkmenistan in project management and ensure quality assurance of its implementation in accordance with the

plans approved by the Project Board. The main UNDP project will be carried out by its Country Office in Ashgabat under the supervision of the Program Specialist for Environment and Energy and other senior program staff, including the UNDP Resident Representative and the Deputy Resident Representative as plenipotentiaries.

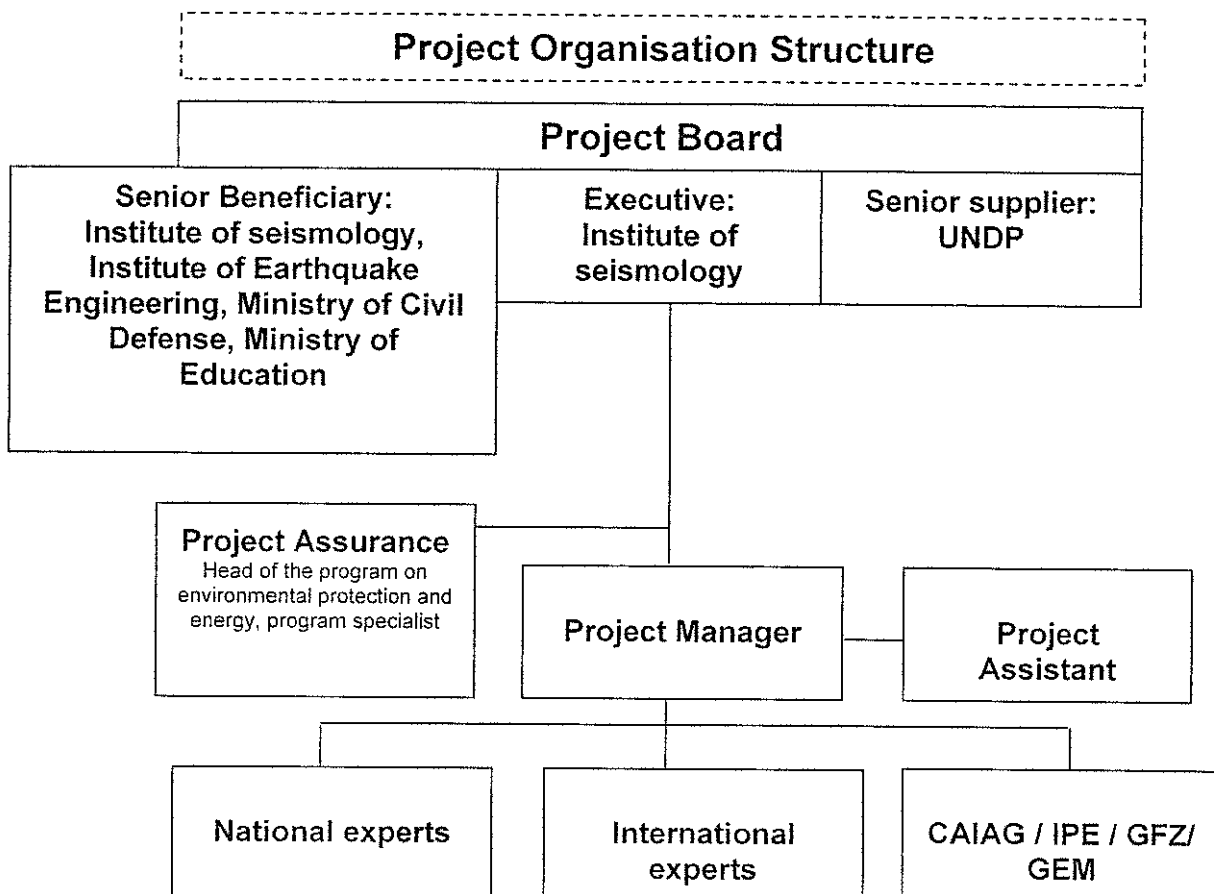
In order to carry out some specific tasks, such as the development of methodologies and plans, the development of feasibility study and implementation of pilot measures, joint monitoring and evaluation, training and knowledge sharing, experts, companies, non-governmental organizations or other organizations will be involved as subcontractors. Subcontractors will carry out their activities according to the terms of reference and the internal rules agreed with the project management.

Daily operations of the project will be carried out by full-time project staff headed by the Project Manager. Project Manager is responsible for the implementation of the project activities as set out in this Project Document and in accordance with all changes approved by the Project Board. At least in a month of August of the current year, Project Manager will prepare Annual Work Plans for next year that according to Agreement between the Government of Turkmenistan and UNDP on co-financing (Article 2, par.1-5) is a basis for funding and amounts indicated there should be reflected in State budget of Turkmenistan, which is formed in September of each year. These plans will be reviewed and approved by the Project Board will then be used by project staff as a tool for planning, implementing and monitoring the work in progress. In addition, for each meeting of the Project Board Project Manager will prepare a full report on the status of the implementation of the project activities, including recent achievements, risks and proposed risk reduction activities.

UNDP will involve national and international consultants to provide targeted technical assistance to the project, as appropriate, especially with regard to the application and development of modern tools for seismic risk and hazard assessment, as well as for the development of recommendations and long-term strategies of different focus.

The staff of the UNDP country office in Ashgabat will assist Project Manager in all administrative matters of the project, including logistics and records management.

The figure below shows the organizational structure of the project:



Direct management of UNDP to support the services in the implementation of the project

UNDP and the Institute of seismology and physics of the atmosphere AS of Turkmenistan came to an agreement that the UNDP Office will provide the following services to support the project activities:

- Identifying, hiring and resolving administrative issues related to the project staff;
- Purchase of goods, works and services;
- Identification and assistance in conducting trainings and seminars;
- Financial monitoring and reporting;
- Processing of direct payments;
- Supervision of project implementation, monitoring and assistance in project evaluation.

The UNDP office in Ashgabat will provide administrative services to ensure reporting requirements and direct payments. In the provision of such services the specified UNDP office will take into account strengthening of capacity of the Institute of seismology to perform such services in the future.

In providing the above administrative services the UNDP office will reimburse the costs of the services provided on the basis of actual costs and payments made in accordance with the universal UN price list. In accordance with corporate principles these costs are an integral part of the project implementation and, therefore, the amount will be withdrawn from the relevant budget line (see GRA).

Procurement of goods and services, as well as the recruitment of personnel for the project by the UNDP office in Ashgabat, will be conducted in accordance with UNDP rules, procedures and standards. If UNDP rules change with respect to administrative services, such changes will be properly negotiated and agreed upon by mutual consent of UNDP and the Institute of seismology.

The relevant provisions of the Standard Basic Assistance Agreement (SBAA) between the Government of Turkmenistan and UNDP, signed on 5 October 1993, provisions on liability, privileges and immunities will be respected throughout the project implementation period.

Any claims or disputes arising in connection with the provision of the above UNDP services under this document will be handled in accordance with the provisions of the Country Assistance Framework Agreement (SBAA).

V. RESULTS FRAMEWORK

<p>Intended Outcome as stated in the UNDAF/Country Programme Results and Resource Framework: National policy, legislative and institutional framework responds to climate change issues by assisting in building resilience to climate change, adaptation, climate risk management and disaster risk reduction measures at the sectoral and community level</p> <p>Expected Output (s): Number of legal documents in the field of DRR approved/being at the implementation stage, appropriate financial and technical measures, qualitative sectoral plans that incorporate gender adaptive practices in DRR and include relevant cross-sectoral coordination mechanisms on DRR (Outcome 6.3 of the country program for Turkmenistan)</p> <p>Partnership strategy: multi-level, involving key stakeholders, including the main project partner: the Institute of seismology and Atmospheric Physics of the Academy of Sciences of Turkmenistan, as well as the participation of other research institutes, relevant ministries, local authorities and the municipality of Ashgabat, national and international partners in DRR</p> <p>Project title: Strengthening National Capacity for Seismic Risk Assessment, Prevention and Response to Potential Earthquakes (Atlas number: XXXXXXXX)</p>									
Expected outputs	Output indicators	Data source	Baseline		TARGETS (by frequency of data collection)				Data collection methods & risks
			Value	Year	Year 1	Year 2	Year 3	Final	
Output 1 Comprehensive assessment of seismic risks in Ashgabat conducted	1.1. Number of methodological recommendations and proposals for approval of some modern methods of seismic microzoning and assessment of vulnerability of buildings	Project, Institute of seismology, Institute of Earthquake Engineering	0	2018	1	2	3	3	Methods of data collection: Analysis of relevant reports Risks: Administrative/technical problems and delays in the implementation of activities
	1.2 Number of developed seismic maps of different levels of zoning and directionality (updated) for the city of Ashgabat	Project, Institute of seismology	Last version of seismic microzoning of Ashgabat city (scale 1:25000) was approved in 2001.	2018	1	2	4	4	Methods of data collection: Analysis of relevant reports and publications, monitoring Risks: Personnel/technical problems and delays in the implementation of activities

	1.3 Number of geospatial models of earthquake susceptibility to buildings in target areas (housing stock and administrative buildings) based on building and ground characteristics	Project, Institute of seismology, Institute of Earthquake Engineering, Municipality	0	2018	1	2	2	2	Methods of data collection: Analysis of relevant reports and publications, monitoring Risks: Personnel/technical problems and delays in implementation of activities, low level of coordination
Output 2 Scientific and technical and human capacities of the Institute of seismology are strengthened for more effective work in the field of seismic hazard assessment and earthquake monitoring, as well as seismic risk assessment	2.1 Number of laboratories of the Institute of seismology equipped with necessary and updated scientific and technical equipment	Institute of seismology	Until now, the Institute of seismology was not dealing with issues of seismic risk assessment	2016	2	2	2	2	Methods of data collection: Contracts, procurement documents, handover certificates Risks: Low level of involvement of customs authorities, which may affect the delay in customs clearance
	2.2. Number of employees of scientific research institutes, ministries and departments that have passed trainings and courses on modern methods of seismic risk assessment	Project, Institute of seismology, Institute of Earthquake Engineering	0	2018	15	30	50	50	Methods of data collection: Direct observation, lists of participants, reports, reviews Risks: Low level of interest of partners in increasing their potential and participation
	2.3 Number of scientific and methodological and practical bases developed to improve the principles of existing disaster preparedness, complex monitoring and reporting of seismic events	Project, involved research institutes and ministries	0	2018	1	1	1	1	Methods of data collection: Analysis of reports, comments of relevant institutions Risks: difficulties in communication between research institutes, delays in providing data and joint development of documents

Output 3 <i>Preparedness for response to threats and disasters caused by earthquakes increased</i>	3.1 Number of developed scenarios for the emergencies and development of disasters in case of the impact of strong earthquakes in targeted settlements on an improved scientific and methodological basis, using the example of a spatially linked scenario for the development of consequences for different time intervals	<i>Project, Institute of seismology, Institute of Earthquake Engineering, Ministry of Defense</i>	0	2018	0	1	2	2	Methods of data collection: Analysis of reports, comments of relevant institutions and final documents Risks: difficulties in communication between research institutes and ministries, delays in providing data and finalizing documents by involved partners, low interest of relevant institutions.
	3.2 Number of training methods and materials for assessing the risks of earthquakes, associated risks of secondary and cascade disasters replicated and sent to local executive bodies for further use	<i>Project, Ministry of Defense, Ministry of Education</i>	0	2018	0	0	1	1	Methods of data collection: Analysis of reports, comments of relevant institutions and final documents Risks: insufficient support of relevant ministries, delays in approving materials.
	3.3. Number of recommendations to the Ministry of Education on the inclusion of modules to assess seismic hazard and risk in the educational process of pilot universities for the further involvement of junior personnel in scientific activities.	<i>Project, Ministry of Education</i>							Methods of data collection: Analysis of documents and reports, recommendations of the Ministry of Education Risks: technical delays, lack of involvement and interest of the Ministry of Education, difficulties in implementing modules in training programs

	3.4 Number of investment strategies for DRR at the macro level	Project, Ministry of Economy and Development, Ministry of Construction and Architecture, Ministry of Defense	0	2018	0	0	1	1	Methods of data collection: Analysis of documents and reports, reviews of relevant ministries and other departments Risks: insufficient political will to change/refine existing mechanisms and instruments at the state level
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VI. MONITORING AND EVALUATION

In accordance with UNDP's programming policies and procedures, the project will be monitored through the following monitoring and evaluation plans:

Monitoring plan

Monitoring Activity	Purpose	Frequency	Expected Action	Partners (if joint)	Cost (if any)
Track results progress	Progress data against the results indicators in the RRF will be collected and analysed to assess the progress of the project in achieving the agreed outputs.	Quarterly, or in the frequency required for each indicator.	Slower than expected progress will be addressed by project management.		
Monitor and Manage Risk	Identify specific risks that may threaten achievement of intended results. Identify and monitor risk management actions using a risk log. This includes monitoring measures and plans that may have been required as per UNDP's Social and Environmental Standards. Audits will be conducted in accordance with UNDP's audit policy to manage financial risk.	Quarterly	Risks are identified by project management and actions are taken to manage risk. The risk log is actively maintained to keep track of identified risks and actions taken.		
Learn	Knowledge, good practices and lessons will be captured regularly, as well as actively sourced from other projects and partners and integrated back into the project.	At least annually	Relevant lessons are captured by the project team and used to inform management decisions.		
Annual Project Quality Assurance	The quality of the project will be assessed against UNDP's quality standards to identify project strengths and weaknesses and to inform management decision making to improve the project.	Annually	Areas of strength and weakness will be reviewed by project management and used to inform decisions to improve project performance.		
Review and Make Course Corrections	Internal review of data and evidence from all monitoring actions to inform decision making.	At least annually	Performance data, risks, lessons and quality will be discussed by the project board and used to make course corrections.		
Project Report	A progress report will be presented to the Project Board and key stakeholders.	Annually, and at the end of the			

<p>Project Review (Project Board)</p>	<p>consisting of progress data showing the results achieved against pre-defined annual targets at the output level, the annual project quality rating summary, an updated risk long with mitigation measures, and any evaluation or review reports prepared over the period.</p> <p>The project's governance mechanism (i.e., project board) will hold regular project reviews to assess the performance of the project and review the Multi-Year Work Plan to ensure realistic budgeting over the life of the project. In the project's final year, the Project Board shall hold an end-of project review to capture lessons learned and discuss opportunities for scaling up and to socialize project results and lessons learned with relevant audiences.</p>	<p>project (final report)</p>	<p>Any quality concerns or slower than expected progress should be discussed by the project board and management actions agreed to address the issues identified.</p>		
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VII. MULTI-YEAR WORK PLAN

EXPECTED OUTPUTS	PLANNED ACTIVITIES	PLANNED BUDGET BY YEAR (USD)			RESPONSIBLE PARTIES	PLANNED BUDGET (USD)		
		2018	2019	2020		Funding Source	Budget Description	Amount
Output 1: Comprehensive assessment of seismic risks in Ashgabat conducted	1.1 Collection and analysis of existing methods and data, as well as development of a detailed project action plan in cooperation with CAIAG, IPE and national partners	38 500,00	31 500,00	20 000,00	Project	Gov	71300-National consultants 71600-Travel 75700-Workshops and meetings	90 000,00
	1.2 Carrying out practical work and seismic measurements necessary for the qualitative development of documentation on forecasting and monitoring of seismic events in conjunction with CAIAG and IPE (including analysis of building susceptibility and seismic risk assessment)	108 500,00	71 500,00	50 000,00	Project	Gov	71200-International consultants 71300-National consultants 71600-Travel 72100- Contracted technical services 73100-Rental and maintenance of equipment 75700- Workshops and meetings	230 000,00
	1.3 Support to the Institute of seismology in creating new and updating/developing the existing seismic zoning maps	25 000,00	30 000,00	20 000,00	Project	Gov	71200-International consultants 71300-National consultants 71600-Travel 72100- Contracted technical services 74200-Communications and publications 75700- Workshops and meetings	75 000,00

<p>Output 2: Scientific and technical and human resources of the Institute of seismology are strengthened for more effective work in the field of earthquake forecasting and monitoring, as well as seismic risk assessment</p>	<p>1.4 Interpretation of the results of research and observations, carrying out the necessary modeling (including the compilation of geospatial models of the susceptibility of buildings to earthquakes in the target areas (housing stock and administrative buildings). Preparation of the report on the complex seismic risk assessment in Ashgabat</p>	27 000,00	30 000,00	23 000,00	Project	Gov	71200-International consultants 71300-National consultants 71600-Travel 74200-Communications and publications 75700- Workshops and meetings	80 000,00
	Total for Objective 1	199 000,00	163 000,00	113 000,00				475 000,00
	Project Administration, 7% (GMS)	13 930,00	11 410,00	7 910,00				33 250,00
	TOTAL FOR OBJECTIVE 1	212 930,00	174 410,00	120 910,00				508 250,00
	2.1 Definition of parameters, purchase and delivery of the necessary set of equipment for the Institute of seismology	400 000,00	160 000,00	60 000,00	Project	Gov	71300-National consultants 71400-Service contracts 72200-Equipment 75700- Workshops and meetings	620 000,00
	2.2 Organization of training courses for personnel of scientific institutes working in the field of engineering seismology, as well as for specialists from relevant ministries working in the field of DRR for obtaining and monitoring qualitative data for probabilistic estimation of seismic hazard using modern methodologies	54 500,00	45 500,00	30 000,00	Project	Gov	71200-International consultants 71400-Service contracts 71600-Travel 72100- Contracted technical services 75700- Workshops and meetings	130 000,00
	2.3 Development of scientific and methodological materials for further training of the staff of the research institute	11 000,00	25 000,00	44 000,00	Project	Gov	71200-International consultants 71300-National consultants 74200-Communications and publications 75700- Workshops and meetings	80 000,00
	Total for objective 2	465 500,00	230 500,00	134 000,00				830 000,00
	Project Administration, 7% (GMS)	32 585,00	16 135,00	9 380,00				58 100,00
	TOTAL FOR OBJECTIVE 2	498 085,00	246 635,00	143 380,00				888 100,00

Output 3: Preparedness for response to threats and disasters caused by earthquakes increased	3.1 Development of dynamic scenarios for the emergence and development of disasters on a scientific and methodological basis with the example of a spatially-linked scenario of the development of consequences for the subsequent transfer to the Ministry of Defense and other state institutions upon agreement	7 000,00	43 000,00	40 000,00	Project	Gov	71200-International consultants 71300-National consultants 74200-Communications and publications 75700- Workshops and meetings	90 000,00
		3 000,00	44 000,00	50 000,00	Project	Gov	71200-International consultants 71300-National consultants 74200-Communications and publications 75700- Workshops and meetings	97 000,00
		5 000,00	13 000,00	50 000,00	Project	Gov	71200-International consultants 71300-National consultants 71600-Travel 74200-Communications and publications 75700- Workshops and meetings	68 000,00
	3.3 Preparation of recommendations on the inclusion of modules for assessing seismic hazard and risk in the educational programs of pilot universities	-	30 000,00	40 000,00	Project	Gov	71200-International consultants 71300-National consultants 74200-Communications and publications 75700- Workshops and meetings	70 000,00
		15 000,00	130 000,00	180 000,00				325 000,00
	TOTAL FOR OBJECTIVE 3	1 050,00	9 100,00	12 600,00				22 750,00
		16 050,00	139 100,00	192 600,00				347 750,00
		Total for objective 3						
		Project Administration, 7% (GMS)						

Project management	Project reporting and implementation	3 000,00	5 000,00	3 000,00	Project	Gov	74200-Communications and publications	11 000,00
		60 000,00	60 000,00	60 000,00	Project	Gov	71600-Travel	180 000,00
		5 000,00	5 000,00	5 000,00	Project	Gov	72200-Equipment	15 000,00
		4 000,00	1 000,00		Project	Gov	75700- Workshops and meetings	5 000,00
		1 200,00	1 200,00	1 200,00	Project	Gov	73100-Rental and maintenance of equipment	3 600,00
		1 500,00	1 500,00	1 500,00	Project	Gov	72400-Communications	4 500,00
		1 200,00	1 200,00	1 200,00	Project	Gov	74500-Operational and administrative costs of project management	3 600,00
		14 000,00	14 000,00	14 000,00	Project	Gov	71600-Travel	42 000,00
		89 900,00	88 900,00	85 900,00				264 700,00
		6 293,00	6 223,00	6 013,00				18 529,00
96 193,00	95 123,00	91 913,00				283 229,00		
	14,000,00	14,000,00			UNDP	71400 - Service Contracts	42,000,00	
	5,000,00	5,000,00			UNDP	71600 - Travel	15,000,00	
	1,000,00	1,000,00			UNDP	74500 -vOther	3,000,00	
	20,000,00	20,000,00	20,000,00		UNDP		60,000,00	
	116 193,00	115 123,00	111 913,00				343 229,00	
	843 258,00	675 268,00	568 803,00				2 087 329,00	
GRAND TOTAL FOR PROJECT								

Depending on actual implementation of the project, terms of planned project activities in annual work plans will be adjusted.

Note: Annual Work Plan 2018 is provided in Annex 5 (in Excel format)

WORK PLAN - YEAR 2019				
EXPECTED OUTPUTS	PLANNED ACTIVITIES	RESPONSIBLE PARTIES	PLANNED BUDGET BY YEAR (USD)	
			Funding Source	Amount
Output 1: Comprehensive assessment of seismic risks in Ashgabat conducted	1.1 Collection and analysis of existing methods and data, as well as development of a detailed project action plan in cooperation with CAIAG, IPE and national partners	Project	71300-National consultants 14000\$	31 500,00
			Expert in seismological studies – 150\$*35=5250\$ Expert on development of methodologies and recommendations on microzoning – 200\$*20=4000\$ Other experts (as agreed with project board in 2018) 190\$*25=4750\$	
			71600-Travel 10000\$	
			Participants from velayats: 4 persons (3 days) *306\$=1224\$	
			Participants from other countries: 4 persons (4 days)*2165\$ = 8660	
			Other transport costs – 116\$	
			(travel costs for meetings and joint works with participants from velayats. Invitation of	

				<p>partners from Russia, Kyrgyzstan, Germany for practical works on methodologies and correction of joint plans – will be specified/adjusted based on results of the 1st year of project's implementation)</p> <p>75700-Workshops and meetings 7500\$</p> <p>3 working meetings / workshops / round tables = 7500\$ (30 participants x 2 days = 2500\$)</p>	
	<p>1.2 Carrying out practical work and seismic measurements necessary for the qualitative development of documentation on forecasting and monitoring of seismic events in conjunction with CAIAG and IPE (including analysis of building susceptibility and seismic risk assessment)</p>	Project	Gov	<p>71200-International consultants 15000</p> <p>international expert on seismic measurements and interpretation of measurements data – 600\$*25 days – 15000\$</p> <p>71300-National consultants 10000\$</p> <p>Field technician 50\$*110 days) – 5500\$</p> <p>Expert in seismological studies – 150\$*30=4500\$</p> <p>71600-Travel 8025\$</p> <p>Participants from velays: 5 persons (3 days) *306\$=1530\$</p> <p>Participants from other</p>	71 500,00

<p>countries: 3 persons (4 days)*2165\$ = 6495\$</p> <p>72100- Contracted technical services 28500\$</p> <p>(CAIAG, IPE – practical works and tech.support)</p> <p>73100-Rental and maintenance of equipment 4975\$</p> <p>75700- Workshops and meetings 5000\$</p> <p>2 working meetings / workshops / round tables = 5000\$ (30 participants x 2 days = 2500\$)</p> <p>71200-International consultants 3000\$</p> <p>international expert on seismic measurements and interpretation of measurements data – 6000\$*5 days – 30000\$</p> <p>71300-National consultants 5000\$</p> <p>Consultant on seismic zoning - 1000\$*50 days – 50000\$</p> <p>71600-Travel 4942\$</p> <p>Participants from velays: 2 persons (3 days) *306\$=612\$</p>	<p>Project</p> <p>Gov</p>	<p>30 000,00</p>	
<p>1.3 Support to the Institute of seismology in creating new and updating/developing the existing seismic zoning maps</p>			

				<p>Participants from other countries: 2 persons (4 days)*2165\$ = 4330\$</p> <p>72100- Contracted technical services 12500\$</p> <p>(tech.support and consultations)</p> <p>74200-Communications and publications 3058\$</p> <p>75700- Workshops and meetings 1500\$</p> <p>(1-day round table for 20-40 participants, working meetings)</p>	
	<p>1.4 Interpretation of the results of research and observations, carrying out the necessary modeling (including the compilation of geospatial models of the susceptibility of buildings to earthquakes in the target areas (housing stock and administrative buildings). Preparation of the report on the complex seismic risk assessment in Ashgabat</p>	<p>Project</p>	<p>Gov</p>	<p>71200-International consultants 6000\$</p> <p>international expert on seismic measurements and interpretation of measurements data – 600\$*10 days – 6000\$</p> <p>71300-National consultants 8000\$</p> <p>Consultant on seismic zoning 100\$*50 days – 5000\$</p> <p>Geophysical engineer (50\$*60 days) –3000\$</p> <p>71600-Travel 7000\$</p> <p>Participants from velayats and travels to</p>	<p>30 000,00</p>

					velayats if necessary: 4 persons (3 days) *306\$=1224\$ Participants from other countries: 2 persons (4 days)*2165\$ = 4330\$ Daytime travels in Ashgabat: 1446\$ (field travels, travels of consultants) 74200-Communications and publications 4000\$ 75700- Workshops and meetings 5000\$ 2 working meetings / workshops / round tables = 5000\$ (30 participants x 2 days = 2500\$)		163 000,00 11 410,00 174 410,00
				Total for Objective 1			
				Project Administration, 7% (GMS)			
				TOTAL FOR OBJECTIVE 1			
				2.1 Definition of parameters, purchase and delivery of the necessary set of equipment for the Institute of seismology			
Output 2: Scientific and technical and human resources of the Institute of seismology are strengthened for more effective work in the field of earthquake forecasting and monitoring, as well as seismic risk assessment			Project	Gov	71300-National consultants 5000\$ Consultant on seismic zoning (or narrow-focused specialist on technical components) 100\$*50 days -5000\$ 71400-Service contracts 20000\$ (delivery, tuning, service, trainings) 72200-Equipment		160 000,00

				<p>1200000\$</p> <p>75700- Workshops and meetings 50000\$</p> <p>2 working meetings / workshops / round tables = 50000\$ (30 participants x 2 days = 25000\$)</p>	
	<p>2.2 Organization of training courses for personnel of scientific institutes working in the field of engineering seismology, as well as for specialists from relevant ministries working in the field of DRR for obtaining and monitoring qualitative data for probabilistic estimation of seismic hazard using modern methodologies</p>	Project	Gov	<p>71200-International consultants 90000\$</p> <p>Consultant/trainer-- 5000\$*18 days=9000</p> <p>71400-Service contracts 60000\$</p> <p>(Transportation, field study tours etc.)</p> <p>71600-Travel 70000\$</p> <p>Participants from velaysats: 7 persons (3 days) *3066\$=2142\$</p> <p>Participants/specialists from other countries: 2 persons (4 days)*2165\$ = 4330\$</p> <p>Transportation, practical field visits for participants - 528\$</p> <p>72100- Contracted technical services 150000\$</p> <p>(CAIAG, GFZ, IPE educational services)</p> <p>75700- Workshops and meetings 85000\$</p>	45 500,00

	2.3 Development of scientific and methodological materials for further training of the staff of the research institute	Project	Gov	2 or 3 trainings for 20-40 participants – 8500\$ 71200-International consultants 10000\$ Expert on preparation of educational materials (possibly integration of TOR into above-mentioned international experts duties) 500\$*20 days – 10000\$ 71300-National consultants 5000\$ Consultant on adaptation of materials to local context 200\$*25 day – 5000\$ 74200-Communications and publications 5000\$ 75700- Workshops and meetings 5000\$ 2 working meetings / workshops / round tables = 5000\$ (30 participants x 2 days = 2500\$)	25 000,00
	Total for objective 2				230 500,00
	Project Administration, 7% (GMS)				16 135,00
	TOTAL FOR OBJECTIVE 2				246 635,00
Output 3: <i>Preparedness for response to threats and disasters caused by earthquakes</i>	3.1 Development of dynamic scenarios for the emergence and development of disasters on a scientific and methodological basis with the example of a spatially-linked scenario of the development	Project	Gov	71200-International consultants 15000\$ Scenarios development expert	43 000,00

increased	of consequences for the subsequent transfer to the Ministry of Defense and other state institutions upon agreement			750\$*20=15000\$	
				71300-National consultants 9750\$	
				Technical risk assessment consultant – 150\$*30 – 4500\$	
				Technical advisor on contingency planning – 150\$*35=5250\$	
				74200-Communications and publications 5000\$	
				75700- Workshops and meetings 10250\$	
				1 or 2 2-day national meetings for scenarios presentation and discussion with participation of all interested agencies – 2*5125\$	
				71200-International consultants 15000\$	
				Expert on inclusion of DRR into municipal planning and development of recommendations 600\$*25 days – 15000\$	44 000,00
				71300-National consultants 17250\$	
				Consultant on juridical issues and building code 200\$*30 days -6000\$	
	3.2 Development of materials on earthquake risk assessment and consideration of these risks in municipal planning and other activities for subsequent recommendations to relevant departments	Project	Gov		

	<p>Technical risk assessment consultant – 150\$*40 – 6000\$</p> <p>Technical advisor on contingency planning – 150\$*35=5250\$</p> <p>74200-Communications and publications 4250\$</p> <p>75700- Workshops and meetings 7500\$</p> <p>3 working meetings / workshops / round tables = 7500\$ (30 participants x 2 days = 2500\$)</p>			
	<p>71200-International consultants 2500\$</p> <p>Expert on preparation of educational module 500\$*5 – 2500\$</p> <p>71300-National consultants 3000\$</p> <p>National advisor on educational programs 150\$*20 – 3000\$</p> <p>71600-Travel 2165\$</p> <p>Travel expenses for expert: 1 person (4 days) - 2165\$</p> <p>74200-Communications and publications 835\$</p>	Gov	Project	13 000,00

				75700- Workshops and meetings 15000\$ 1-day round table for concept's presentation and. Next step is development of concept according to recommendations of respective agencies. 71200-International consultants 14000\$ Expert on development of DRR investment strategy 700\$*20 – 14000\$ 71300-National consultants 10000\$ National advisor on state planning and budgeting 200\$*25 – 5000\$ Technical consultant on mainstreaming DRR into governmental mechanisms and tools 200\$*25 – 5000\$ 74200-Communications and publications 1000\$ 75700- Workshops and meetings 5000\$ 2 working meetings / workshops / round tables = 5000\$ (30 participants x 2 days = 2500\$)				30 000,00
	3.4 Development of investment strategy for DRR at the macro level based on project results	Project	Gov					
	Total for objective 3						130 000,00	
	Project Administration, 7% (GMS) (GMS)						9 100,00	

	TOTAL FOR OBJECTIVE 3					139 100,00	
Project management Government	Project reporting implementation and	Project	Gov	74200-Communications and publications		5 000,00	
		Project	Gov	71400-Service Contracts		60 000,00	
		Project	Gov	72200-Equipment		1 000,00	
		Project	Gov	75700- Workshops and meetings		1 200,00	
		Project	Gov	73100-Rental and maintenance of equipment		1 500,00	
		Project	Gov	72400-Communications		1 200,00	
		Project	Gov	71600-Travel		5 000,00	
		Project	Gov	64300, 74500- Operational and administrative costs of project management		14 000,00	
				Gov			88 900,00
							6 223,00
Project management UNDP						95 123,00	
			UNDP	71400-Service Contracts		14 000,00	
			UNDP	71600-Travel		5 000,00	
			UNDP	74500-Other		1 000,00	
			UNDP			20 000,00	
						115 123,00	
TOTAL FOR PROJECT						675 268,00	
	Government					655 268,00	
	UNDP					20 000,00	

WORK PLAN - YEAR 2020				
EXPECTED OUTPUTS	PLANNED ACTIVITIES	RESPONSIBLE PARTIES	PLANNED BUDGET BY YEAR (USD)	
			Funding Source	Amount
Output 1: Comprehensive assessment of seismic risks in Ashgabat conducted	1.1 Collection and analysis of existing methods and data, as well as development of a detailed project action plan in cooperation with CAIAG, IPE and national partners	Project	71300-National consultants 3500\$	20 000,00
			Expert in seismological studies 150\$*20=3000\$	
			Consultant for organization of the conference -- 100\$*5=500\$	
			71600-Travel 12049\$	
			Participants from velayats: 4 persons (3 days) *306\$=1224\$	
		Gov	Participants from other countries: 5 persons (4 days)*2165\$ = 10825\$	
			(travel costs for meetings and joint works with participants from velayats. Invitation of partners from Russia, Kyrgyzstan, Germany for practical works on methodologies and correction of joint plans – will be specified/adjusted based on results of the 2 nd year of project's implementation)	

				<p>75700-Workshops and meetings 4451\$</p> <p>Final conference for presenting of partners' results (40 participants x 2 days = 4451\$)</p>	
	<p>1.2 Carrying out practical work and seismic measurements necessary for the qualitative development of documentation on forecasting and monitoring of seismic events in conjunction with CAIAG and IPE (including analysis of building susceptibility and seismic risk assessment)</p>	<p>Project</p>	<p>Gov</p>	<p>71200-International consultants 9000\$</p> <p>international expert on seismic measurements and interpretation of measurements data - 600\$*15 days - 9000\$</p> <p>71300-National consultants 13000\$</p> <p>Field technician 50\$*110 days - 5500\$</p> <p>Expert in seismological studies - 150\$*30=4500\$</p> <p>71600-Travel 8025\$</p> <p>Participants from velayats: 5 persons (3 days) *306\$=1530\$</p> <p>Participants from other countries: 3 persons (4 days)*2165\$ = 6495\$</p> <p>72100- Contracted technical services 115000\$</p> <p>(CAIAG, IPE - practical works and tech.support)</p>	<p>50 000,00</p>

				<p>73100-Rental and maintenance of equipment 3475\$</p> <p>75700- Workshops and meetings 5000\$</p> <p>2 working meetings / workshops / round tables = 5000\$ (30 participants x 2 days = 2500\$)</p>	
	<p>1.3 Support to the Institute of seismology in creating new and updating/developing the existing seismic zoning maps</p>	Project	Gov	<p>71200-International consultants 3000\$</p> <p>international expert on seismic measurements and interpretation of measurements data - 600\$*5 days - 3000\$</p> <p>71300-National consultants 4500\$</p> <p>Consultant on seismic zoning - 100\$*45 days - 4500\$</p> <p>71600-Travel 3083\$</p> <p>Participants from velayats: 3 persons (3 days) *306\$=918\$</p> <p>Participants from other countries: 1 persons (4 days)*2165\$ = 2165\$</p> <p>72100- Contracted technical services 5000\$</p>	20 000,00

				<p>74200-Communications and publications 2917\$</p> <p>75700- Workshops and meetings 1500\$</p> <p>1 1-day working meeting with participation of involved partners-- 1500\$</p>	
	<p>1.4 Interpretation of the results of research and observations, carrying out the necessary modeling (including the compilation of geospatial models of the susceptibility of buildings to earthquakes in the target areas (housing stock and administrative buildings)). Preparation of the report on the complex seismic risk assessment in Ashgabat</p>	Project	Gov	<p>71200-International consultants 4200\$</p> <p>international expert on seismic measurements and interpretation of measurements data – 600\$*7 days – 4200\$</p> <p>71300-National consultants 8300\$</p> <p>Consultant on seismic zoning 100\$*50 days – 5000\$</p> <p>Geophysical engineer (50\$*66 days) –3300\$</p> <p>71600-Travel 4000\$</p> <p>Participants from velayats and travels to velayats if necessary: 4 persons (3 days) *306\$=1224\$</p> <p>Participants from other countries: 1 person (4 days)*2165\$ = 2165\$</p> <p>Daytime travels in Ashgabat: 611\$</p>	23 000,00

				(field travels, travels of consultants)	
				74200-Communications and publications 4000\$	
				75700- Workshops and meetings 2500\$	
				1 working meeting / workshop / round table = 2500\$ (30 participants x 2 days = 2500\$)	
			Total for Objective 1		113 000,00
			Project Administration, 7% (GMS)		7 910,00
			TOTAL FOR OBJECTIVE 1		120 910,00
Output 2: Scientific and technical resources of the Institute of seismology are strengthened for more effective work in the field of earthquake forecasting and monitoring, as well as seismic risk assessment	2.1 Definition of parameters, purchase and delivery of the necessary set of equipment for the Institute of seismology	Project	Gov	71300-National consultants 5000\$	60 000,00
				Consultant on seismic zoning (or narrow-focused specialist on technical components)	
				100\$*50 days -5000\$	
				71400-Service contracts 15000\$	
				(fine - tuning, service, trainings)	
72200-Equipment 27500\$					
75700- Workshops and meetings 2500\$					
Technical training on exploitation of equipment (20 participants x 2 days = 2500\$)					

2.2 Organization of training courses for personnel of scientific institutes working in the field of engineering seismology, as well as for specialists from relevant ministries working in the field of DRR for obtaining and monitoring qualitative data for probabilistic estimation of seismic hazard using modern methodologies	Project	Gov	71200-International consultants 3500\$	30 000,00
			Consultant/trainer – 500\$*7 days=3500\$ 71400-Service contracts 2000\$ 71600-Travel 15943\$ Study tour for exchange of experience, 4 persons*3062\$ - 12248\$ Participants from velayats: 5 persons*306\$=1530\$ Consultant/trainer 1 person (4 days)-2165\$ 72100- Contracted technical services 3557\$ 75700- Workshops and meetings 5000\$ Training for government representatives (20 participants*4 days -- 5000\$)	
2.3 Development of scientific and methodological materials for further training of the staff of the research institute	Project	Gov	71200-International consultants 10000\$ Expert on preparation of educational materials (possibly integration of TOR into above-mentioned international experts duties) 500\$*20 days -- 10000\$	44 000,00

<p>Technical advisor on contingency planning -- 150\$*35=5250\$</p> <p>74200-Communications and publications 5000\$</p> <p>75700- Workshops and meetings 10250\$</p> <p>1 or 2 2-day national meetings for scenarios presentation and discussion with participation of all interested agencies 2*5125\$</p>			
<p>71200-International consultants 16800\$</p> <p>Expert on inclusion of DRR into municipal planning and development of recommendations 600\$*28 days -- 16800\$</p>			
<p>71300-National consultants 21750\$</p> <p>Consultant on juridical issues and building code 200\$*30 days -6000\$</p> <p>Technical risk assessment consultant -- 150\$*60 -- 9000\$</p> <p>Technical advisor on contingency planning -- 150\$*45=6750\$</p> <p>74200-Communications and publications</p>	Gov	Project	50 000,00

	<p>3950\$</p> <p>75700- Workshops and meetings 7500\$</p> <p>3 working meetings / workshops / round tables = 7500\$ (30 participants x 2 days = 2500\$)</p>		
	<p>71200-International consultants 15000\$</p> <p>Expert on analysis of and inclusion of respective modules into existing educational programs 500\$*30 = 15000\$</p> <p>71300-National consultants 9450\$</p> <p>National advisor on educational programs 150\$*63 = 9450\$</p>		
	<p>71600-Travel 10011\$</p> <p>Participants from velays: 3 persons (3 days) *306\$=918\$</p> <p>International expert: 1 person (4 days)-2165\$</p> <p>Business trip for experience exchange, 4 persons*1732\$ - 6928\$</p> <p>74200-Communications and publications 8039\$</p> <p>(recommendations.</p>	<p>Project</p> <p>Gov</p>	<p>50 000,00</p>
<p>3.3 Preparation of recommendations on the inclusion of modules for assessing seismic hazard and risk in the educational programs of pilot universities</p>			

<p>reports, movies and other education materials)</p> <p>75700- Workshops and meetings 7500\$</p> <p>3 working meetings / workshops / round tables = 7500\$ (30 participants x 2 days = 2500\$)</p>				
<p>3.4 Development of investment strategy for DRR at the macro level based on project results</p>		<p>71200-International consultants 14000\$</p> <p>Expert on development of DRR investment strategy 700\$*20 = 14000\$</p> <p>71300-National consultants 12400\$</p> <p>National advisor on state planning and budgeting 200\$*25 = 5000\$</p> <p>Technical consultant on mainstreaming DRR into governmental mechanisms and tools 200\$*37 = 7400\$</p> <p>74200-Communications and publications 6000\$</p> <p>75700- Workshops and meetings 7600\$</p> <p>2 working meetings / workshops / round tables = 5000\$ (30 participants x 2 days = 2500\$)</p> <p>1 national meeting for presenting and handling</p>	<p>Project</p>	<p>Gov</p> <p>40 000,00</p>

						over the strategy to respective bodies (2600\$)			
	Total for objective 3							180 000,00	
	Project Administration, 7% (GMS)							12 600,00	
	TOTAL FOR OBJECTIVE 3							192 600,00	
Project management Government	Project reporting and implementation	Project	Project	Gov	74200-Communications and publications			3 000,00	
		Project	Project	Gov	71400-Service Contracts			60 000,00	
		Project	Project	Gov	72200-Equipment				
		Project	Project	Gov	71600-Travel				5 000,00
		Project	Project	Gov	75700- Workshops and meetings				1 200,00
		Project	Project	Gov	73100-Rental and maintenance of equipment				1 500,00
		Project	Project	Gov	72400-Communications				1 200,00
		Project	Project	Gov	74500-Operational and administrative costs of project management				14 000,00
		Subtotal for project management			Gov				85 900,00
		Project Administration, 7% (GMS)							6 013,00
Total for project management-Government							91 913,00		
Project management UNDP				UNDP	71400-Service Contracts			14 000,00	
				UNDP	71600-Travel			5 000,00	
				UNDP	74500-Other			1 000,00	
	Subtotal for project management			UNDP				20 000,00	
TOTAL for project management							111 913,00		
TOTAL FOR PROJECT							568 803,00		
Government							548 803,00		
UNDP							20 000,00		

Note: Budget calculation is done in accordance with average rates for services and activities used by UNDP

VIII. LEGAL CONTEXT AND RISK MANAGEMENT

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 5 October 1993. All references in the SBAA to "Executing Agency" shall be deemed to refer to "Implementing Partner."

This project will be implemented by the Institute of seismology ("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.

1. Consistent with the Article III of the SBAA, 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:

a) 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;

b) assume all risks and liabilities related to the Implementing Partner's security, and the full implementation of the security plan.

2. 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.

3. 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. This provision must be included in all sub-contracts or sub-agreements entered into under/further to this Project Document.

4. Consistent with UNDP's Programme and Operations Policies and Procedures, 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>).

5. 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.

6. 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.

Special clauses

1. The Ministry of Finances of Turkmenistan (the Ministry) guided by the provisions of the Co-financing Agreement between the Government of Turkmenistan and the United Nations Development Programme signed on 22 June 2016, will provide the first tranche for implementation of the current Project in the amount of 823,258 USD which will be transferred to UNDP bank account.
2. The Ministry shall, in accordance with the schedule of payments set out below, deposit the contribution in the Turkmen-Turkish Commercial Bank, account no. 23203934273168502583000:

Date payment due	Amount
January 2018	823,258 USD
January 2019	655,268 USD
January 2020	548,803 USD

The value of the payment, if made in a currency other than United States dollars, shall be determined by applying the United Nations operational rate of exchange in effect on the date of payment. Should there be a change in the United Nations operational rate of exchange prior to the full utilization by the UNDP of the payment, the value of the balance of funds still held at that time will be adjusted accordingly. If, in such a case, a loss in the value of the balance of funds is recorded, UNDP shall inform the Government with a view to determining whether any further financing could be provided by the Government. Should such further financing not be available, the assistance to be provided to the project may be adjusted by UNDP in appropriate manner.

3. The above schedule of payments takes into account the requirement that the payments shall be made in advance of the implementation of planned activities. It may be amended to be consistent with the progress of project delivery.

4. UNDP receives, manages and uses the Contribution aimed at attaining the project objectives and in accordance with its applicable regulations, rules and directives of UNDP, including, in particular financial regulations issued by the UNDP Executive Board.

5. UNDP shall submit to the Ministry reports on the project implementation and financial report in accordance with Article 4 of the abovementioned Co-financing Agreement dated 22 June 2016.

6. If unforeseen increases in expenditures or commitments are expected or realized (whether owing to inflationary factors, fluctuation in exchange rates or unforeseen contingencies), UNDP shall submit to the government on a timely basis a supplementary estimate showing the further financing that will be necessary.

7. If the payments referred above are not received in accordance with the payment schedule or additional arrangements, is not forthcoming from the respective sources, the assistance to be provided to the project under this Agreement may be adjusted by UNDP in appropriate manner.

8. Any interest income attributable to the contribution shall be credited to UNDP Account and shall be utilized in accordance with established UNDP procedures.

In accordance with the decisions and directives of UNDP's Executive Board:

The contribution shall be charged:

- (a) 7% cost recovery for the provision of general management support (GMS) by UNDP headquarters and country offices
- (b) Direct cost for implementation support services (ISS) provided by UNDP and implementing partner.

Ownership of equipment, supplies and other properties financed from the contribution shall vest in UNDP. Matters relating to the transfer of ownership by UNDP shall be determined in accordance with the relevant policies and procedures of UNDP.

IX. ANNEXES

- ANNEX 1 Regulation on the Project Board
- ANNEX 2 Terms of Reference (Project Manager)
- ANNEX 3 Terms of Reference (Administrative and Financial Assistant)
- ANNEX 4 Budget calculation for projects
- ANNEX 5 Annual Work Plan 2018

Regulation on the Project Board (PB)

1. General provisions

- 1.1. PB is created on the basis of the project document signed by the Institute of seismology and UNDP.
- 1.2. This document outlines the main objectives of the structure, organization and conduct of meetings of the PB, its functions and rights.
- 1.3. The provisions of this document (hereinafter referred to as the Regulation) are applied to the activities of all PB participants.
- 1.4. PB is the supervisory and governing body that provides organizational support to the Project and performs coordinating functions.
- 1.5. PB operates on the basis of the Constitution of Turkmenistan, decrees and orders of the President of Turkmenistan, resolutions and orders of the Government of Turkmenistan, as well as this provision.
- 1.6. The PB activity is based on the principles of publicity and freedom of discussion.

2. The main tasks of the PB are as follows:

- 2.1. Review, evaluation and development of recommendations and proposals relating to the main areas of project research and works, including the development of draft regulatory, legal and technical acts in the field of technical regulation of equipment and materials;
- 2.2. Provision of consultative and expert assistance, as well as the development of recommendations and proposals relating to the subject matter of the scope and timing of specific stages of design studies and works.
- 2.3. Consideration and assessment of the results of design studies and works, including drafts of regulatory legal acts and methodological documents in the field of technical regulation.

3. The main functions of the PB are as follows:

- 3.1. Overall management of the Project implementation;
- 3.2. Identification of the main areas of the Project and monitoring the implementation of the Project at a high level;
- 3.3. Checking and approving annual project plans and step funding;
- 3.4. Review and approval of quarterly and annual progress reports;
- 3.5. Monitoring of financial payments and coordination of project activities (trips, seminars, etc.);
- 3.6. Ensuring the relationship of the Project with ongoing initiatives, programs, and other additional projects;
- 3.7. Ensuring cooperation between national institutions involved in the implementation of the Project;
- 3.8. Ensuring access to all documents and information available in various government agencies necessary for project monitoring and implementation (with the support of UNDP);
- 3.9. Ensuring the participation of all state and non-state stakeholders in the project;
- 3.10. Providing methodical and practical support to the project team in carrying out project activities;
- 3.11. Playing the role of the main body for coordination of activities and lobbying for the Project's interests in order to provide political, regulatory, legal and financial support to the Government;
- 3.12. Implementation of activities to attract additional financial resources to support the results of the project and activities after the termination of funding.

4. PB structure:

- 4.1. The general management of the PB is carried out by the chairman. The PB chairman is the National Project Director, appointed by the Institute of seismology.
- 4.2. In addition to the Institute of seismology PB consists of the representatives of the following organizations:
 - Institute of Earthquake Engineering;
 - Ministry of Defense;
 - Ministry of Education;
 - Ministry of Health;
 - Ministry of Construction and Architecture;
 - Ministry of Economy and Development.
- 4.3. The following participants can be invited to the PB meetings for the solution of specific tasks:
 - representatives of research institutes
 - independent consultants and experts
 - others.
- 4.4. Organizational and technical support of the PB is carried out by the project team.

5. Organization and procedure for holding meetings of the PB:

- 5.1. The form of the PB work is meetings that are held in accordance with the established procedures at least twice a year or, if necessary, more often in subsequent years.
- 5.2. Meetings of the PB are considered lawful in the presence of a quorum of at least 2/3 of the members of the PB.
- 5.3. Decisions of the PB are made by voting at meetings. During the meetings the members of the PB should strive to ensure that all decisions are taken on the basis of consensus.
- 5.4. Decisions of the PB are made in the form of minutes of the meeting, are sent to all participants of the meeting and are subsequently signed by the Chairman of the PB;
- 5.5. Decisions made at the PB meetings are mandatory for the project team and member organizations of the PB;
- 5.6. Project team organizes and conducts meetings carrying out the following actions:
 - analysis of information provided by member organizations and preparation of the agenda and necessary materials;
 - provision of draft agenda with annexes (reports, reference materials, other information) along with cover letter for consideration and approval by the Chairman of the PB or his deputy (by order of the PB Chairman);
 - when approving the agenda preparation of materials for transfer to the members of the PB;
 - notification of the members of the PB about the date and venue of the meetings and submission of the agenda not later than 10 days before the date of the meeting.

6. Rights and obligations

- 6.1. In order to perform functions within the framework of the PB its members have rights and obligations and are liable in accordance with the legislation of Turkmenistan, other regulatory legal acts and this Regulation.
- 6.2. Members of the PB have the right to:
 - 6.2.1. participate in all meetings of the PB;
 - 6.2.2. receive any information on the activities of the PB;
 - 6.2.3. initiate decision-making of the PB;
 - 6.2.4. perform other powers.
- 6.3. Chairman of the PB:
 - 6.3.1. determines the internal procedures of the PB and approves responsible persons to monitor the implementation of project activities;
 - 6.3.2. presides at the PB meetings;
 - 6.3.3. conducts extraordinary meetings of the PB if necessary;

- 6.3.4. maintains constant communication with the members of the PB and Project Manager;
- 6.3.5. facilitates the exchange of information between members of the PB;
- 6.3.6. together with the Project Manager appoints the dates of the PB meetings;
- 6.3.7. verifies and approves the agenda of the COP meetings;
- 6.3.8. coordinates the activities of the PB aimed at ensuring the implementation of the activities of the PB and provides all necessary support for the successful implementation of the Project;
- 6.3.9. is responsible for timely notification (10 days) of the members of the PB about the forthcoming meeting and provision of the agenda;
- 6.3.10. represents the PB in cooperation with other organizations.

7. Control of activities

- 7.1. In its activities PB is guided by this Regulation.
- 7.2. Project Board's activity should be evaluated at the next meeting of the PB after hearing the annual report.

ANNEX 2 (To the project document)

Terms of Reference

Position: Project Manager

Project Manager is responsible for the overall day-to-day coordination of all aspects of the project at the national level under the overall supervision of the National Project Director (NDP). Project Manager manages the work of project experts, consultants, working groups and is fully responsible for the effective implementation of all project activities. Project Manager ensures timely and rational planning and monitoring of the project activities in accordance with UNDP procedures for planning, monitoring and reporting. Project Manager ensures effective teamwork based on international standards of business administration and human resource management. Project Manager maintains direct link with the Institute of seismology, which is the Executive Partner of this project. Project Manager is responsible for the preparation of financial reports and progress reports, approved project activities, provides expert support and oversees the execution of subcontract works.

Project Manager focuses on achieving the following results:

The overall goal of the Project Manager's work is to successfully implement the project in accordance with the objectives, work plan and budget contained in the project document, including the following specific tasks:

1. Ensuring effective planning and implementation of the project with the participation of all stakeholders;
2. Organization and management of project consultants, including specialists for each project output and project budget;
3. Organization of preparation of terms of reference and contracts for national and international experts, consultants and partners after consulting with the Project Director/UNDP;
4. Organization and assistance in carrying out activities related to the project if necessary. This could include planning meetings of local and national seminars, consultations, business trips and other activities related to the project.
5. Ensuring the preparation of reports on the progress of the project, financial statements, requests of any kind;
6. Provision of preparation of technical reports in accordance with UNDP requirements and forms of monitoring and reporting;
7. Ensuring effective cooperation with relevant government bodies, scientific societies, NGOs and other stakeholders on project activities;
8. Establishment and maintenance of links and relations with national and international project partners;
9. Organization and control of the preparation of documents for the supply of scientific and technical equipment in accordance with the rules and procedures of UNDP;
10. Ensuring the control of timely execution of works;
11. Providing preparation and presentation of various technical reports of UNDP in accordance with the project documentation;
12. Control over the proposed costs of the project budget in accordance with the approved budget for each project output;
13. Ensuring dissemination of information about the project among all interested parties;
14. Establishing and managing mechanisms, sharing experience and lessons learned at the national level;
15. Coordination, tracking and responsibility for the implementation of the approved annual work plan for the project;
16. Ensuring the actual involvement of coordination and monitoring of funds in the co-financing provided for in the project document;
17. Development of relations with other stakeholders and other programs if necessary;
18. Presenting current project reports and timely informing UNDP of any problems encountered during the implementation of the project;
19. Participating in meetings of the Project Board.

ANNEX 3 (To the project document)

Terms of Reference

Position: Administrative and Financial Assistant

The scope of the functional duties is given in accordance with the project documentation. Administrative and Financial Assistant (AFA) is responsible for day-to-day administrative and financial support for project activities, supply of goods and services for the project, including effective project accounting and financial reporting in accordance with UNDP requirements and procedures. Administrative and Financial Assistant will ensure high quality and accurate performance of work.

The overall goal of the AFA work is the successful implementation of the project in accordance with the objectives of the work plan and budget contained in the project document, including the following specific tasks:

1. Preparation of revised project budgets (at least once a year);
2. Preparation of requests for advances and reporting as necessary in accordance with UNDP procedures.
3. Preparation of requests for payment.
4. Preparation of travel requests for project staff, the Executive Partner and UNDP in accordance with the format of UNDP rules and procedures.
5. Support in the organization of business trips (booking tickets and hotels).
6. Assistance to the Project Manager in maintaining regular contacts with the UNDP Executive Partner, project partners and other organizations through direct contacts, information gathering and suggestions, registration of incoming and outgoing correspondence, drafting letters and organizing meetings.
7. Assistance to the Project Manager in monitoring the project by reviewing existing correspondence materials, reports, project activities, project fees, budgets and financial costs in accordance with UNDP requirements; preparation and archiving of the above mentioned correspondence and materials.
8. Organization and support in the organization of seminars of meetings, delegations, trips, etc.
9. Preparation of handouts for seminars of briefings and meetings.
10. Maintenance of equipment inventory, preparation of equipment status reports;
11. Collection and distribution of incoming mail, outgoing mail delivery; search for files, etc.
12. Convenience translation and interpretation functions, if necessary.
13. Preparation after consultation with project experts and approval of procurement plan; ensuring systematic monitoring of procurement in accordance with the format of UNDP and under the supervision of the Project Manager;
14. Selection of suppliers of goods/services in accordance with the requirements and procedures of UNDP;
15. Preparation (after consultation with project experts) of the rationale for selecting suppliers of goods/services for review by the relevant UNDP units and the UNDP Procurement Committee;
16. Preparation and approval of contract documents related to procurement of goods/services; monitoring the implementation of contract terms by suppliers and informing the Project Manager.
17. Preparation of electronic applications in accordance with signed contracts and tranches, monitoring of applications for payment in the relevant UNDP system.
18. Preparation of short-term contracts in accordance with UNDP requirements and procedures and control of contractual terms;
19. Preparation of annual/quarterly report according to the proposals of the project experts and approval of the Project Manager.
20. Systematic analysis of financial situation of the project and, if necessary, preparing proposals of the Project Manager to make adjustments.

Average rates for services and activities used by UNDP to plan project budgets

Cost of International Expert/Consultant services
(duration of work 10 days with a 5-day mission to Turkmenistan)

Type of expenses	# of persons	Daily rate	# of days	Total	Note
Fee	1	500	5	2 500	The daily rate ranges from \$ 300 to \$ 1000
Travel expenses to Turkmenistan:					
Type of expenses	# of persons	Cost of travel for 1 day	# of days	Cost of travel for 5 days	
Air tickets	1	1 000		1 000	
Visa	1	17		17	
Per diem	1	249	5	1 245	
Transport	1	152		152	
Total travel expenses:		1 418		2 414	
Total, services of International Expert/Consultant		1 918		4 914	

Cost of National Expert/Consultant services
(duration of work 10 days with one mission)

Type of expenses	# of persons	Daily rate	# of days	Total	Note
Fee	1	200	10	2 000	Daily rate ranges from \$50 to \$300

Cost of organizing workshops in Ashgabat
(calculation of the cost for 1 person for 1 day)

Type of expenses	# of persons	Travel cost for 1 day
Lunch, 2 coffee-breaks, water	1	36
Stationery	1	7
Total expenses per one participant per day:		43
Cost of interpreter services during the workshop	1	206
Printout of handout material	1	9
Travel expenses for the participants from velayats in Ashgabat:		
Type of expenses	# of persons	Travel cost for 1 day
Air tickets	1	51
Per diem	1	65
Transport (taxi)	1	60
Total travel expenses		176
Total, cost per participant from velayat for 1 day		219

Cost of organizing workshops in velayats
(calculation of the cost for 1 person for 1 day)

Type of expenses	# of persons	Travel cost for 1 day
Lunch, 2 coffee-breaks, water	1	36
Stationery	1	7
Total, cost per participant per 1 day:		43

Cost of interpreter services during the workshop
for 1 day

Simultaneous translation	1	206
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Cost of space rent

Space rent	1	120
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Travel expenses for conducting workshops in velayats:

Type of expenses	# of persons	Travel cost for 1 day
Air tickets	1	55
Per diem	1	55
Transport (taxi)	1	60
Total travel expenses		170
Total, cost per participant from velayat for 1 day		213

Cost of interpreter services during the workshop
for 1 day

Consecutive translation	1	122
Simultaneous translation	1	206

Printout of materials

Brochure, 20 pages, double-sided, A5 format, offset printing	1	8
Brochure, 100 pages, double-sided, A5 format, offset printing	1	9

Study tour abroad of civil servants (Europe)
(cost calculation per 1 person for 5 days)

Type of expenses	# of persons	Travel cost for 1 day	# of days	Travel cost for 5 days
Air tickets	1	900		900
Visa	1	80		80
Per diem	1	386	5	1 930
Transport	1	152		152
Total travel expenses:		1 518		3 062

Participation of civil servants in international workshop abroad (CIS)
(cost calculation per 1 person for 5 days)

Type of expenses	# of persons	Travel cost for 1 day	# of days	Travel cost for 5 days
Air tickets	1	500		500
Visa	1	80		80
Per diem	1	200	5	1 000
Transport	1	152		152
Total travel expenses:		932		1 732

Head of the UNDP
financial department

_____ P. Gulhanov

Annual Work Plan

UNDP Project "Strengthening National Capacity for Seismic Risk Assessment, Prevention and Response to Potential Earthquakes"

Period: 01.01.2018 - 31.12.2018

Budget:

\$843 258

Financial Source: Government of Turkmenistan

ANNEX 5

Result 1: Comprehensive assessment of seismic risks in Ashgabat conducted		71200-International consultants	\$21 000,00
		71300-National consultants	\$97 500,00
		71600-Travel	\$21 000,00
		72100-Contracted technical services	\$97 600,00
		74200-Communications and publications	\$4 000,00
		75700-Workshops and meetings	\$17 900,00
		75100-Project administration, 7%	\$13 900,00
		Total	\$212 930,00

EXPECTED INTERIM RESULTS	PLANNED ACTIVITIES	TIME FRAMES												PLANNED BUDGET			
		January	February	March	April	May	June	July	August	September	October	November	December	RESPONSIBLE PARTIES	Budget Code	Amount	
Result 1.1: Methodological recommendations and proposals for approval of some modern methods of seismic microzonation and assessment of vulnerability of buildings are designed and applied	1.1: Methodologies and data gathering and review, detailed action plan drafting together with CAIAG and other national and international partners														PM, UNDP	71300 - National consultants (1 consultant x 35 days)	\$7 000,00
	a TOR drafting for national consultant - Expert in seismological studies, position advertising and contract														PM, Institute of Seismology, NC (national consultant)	71300 - National consultants (1 consultant x 35 days)	\$7 000,00
	b Review existing maps of seismic microzonation for Ashgabat city, as well as geological and geophysical data needed for implementation of the project														PM, UNDP, Institute of Seismology	75700-Workshop and meetings (1 day meeting x 20 persons)	\$1 000,00
	c Preparatory working meeting with national partners and stakeholders to draft modalities of the project implementation, and making up a list of the required consultants for the project activities.														PM, UNDP, Institute of Seismology	75700-Workshop and meetings (1 day meeting x 35 participants + printing materials + translation)	\$3 000,00
	d Introductory project meeting with participation of experts from CAIAG, IPE, JICA, state agencies, international organizations to discuss														PM, UNDP, Institute of Seismology	71600-Travel (5 persons x 2 days)	\$10 000,00
	d Drafting and coordination of long-term plan of scientific and applied activity with interested partners														PM, UNDP, Institute of Seismology	71300 - National consultants (1 consultant x 20 days)	\$4 000,00
Result 1.2: Number of developed seismic maps of different levels of zoning and directionality (updated) for the city of Ashgabat	e Drafting and coordination of methodological recommendations to apply modern methods of seismic micro-zoning and assessment of vulnerability of buildings													PM, UNDP, NC, Institute of Seismology, Institute of Earthquake Engineering	71300 - National consultants	\$4 000,00	
	f Printing of materials, reports, recommendations and other project documents													PM, UNDP, Institute of Seismology	74200-Communications and publications	\$2 500,00	
	SUBTOTAL TO 1.1.1.															\$38 500,00	
	1.2: Practical works and seismic measurements required to quality documents design on seismic events forecasting and monitoring together with CAIAG and IPE (including analysis of buildings seismic vulnerability and seismic risk assessment)																
	a TOR drafting for international consultant (international expert on seismic measurements and interpretation of measurements data) and national technical													PM, UNDP, Institute of Seismology	71300 - National consultants (1 consultant x 15 days)	\$3 000,00	

a	consultants (field technicians), candidates selection and contracting				Seismology	71200-International consultant x 20 days) \$10 000,00
b	Review the existing data and models of Ashgabat exposure to seismic risks, and other data available to perform assessment of seismic threats and other project activity				PM, UNDP, Institute of Seismology, partners	72100-Contracted technical services \$20 000,00
c	Temporary import and installation of scientific and technical equipment of partners, integrated measurements and observations to obtain data on RF parameters of soils, selected types of housing and their further use.				Project specialists, UNDP, CAIAG	72100-Contracted technical services \$10 000,00
d	Practical preparation geological and geophysical (including boring) works for determining shear velocity. Creation of database of shear velocity (V530)				PM, UNDP, Institute of Seismology	72100-Contracted technical services \$15 000,00
e	Real-time tectonic faults mapping (specific location and width) in the territory of the city based on the study of gaseous composition of soil, records of microvibration and landscape studies (together with IPE)				NC, UNDP	71300 - National consultants (1 consultant x 17 days) \$3 500,00
f	Installation of optical fiber communication links for monitoring and data collection process				IC, UNDP, Institute of Seismology	71200-International consultants (1 consultant x 12 days) \$6 000,00
g	Monitoring of data gathering and work of patterns on sites				PM, UNDP, partners	71600-Travel (2 missions to TKM x 5 days + local travel) \$6 000,00
h	Continuation of scientific and technical studies with the use of procured equipment (identify shear velocity V _{s30} , seismic noise measurements, earthquakes registration and identification of vulnerability curves of buildings)				PM, UNDP, IPE	72100-Contracted technical services \$10 000,00
i	Series of meetings of working groups and partners to discuss interim results and work plans adjustments				PM, UNDP, Institute of Seismology	72100-Contracted technical services \$15 000,00
	SUBTOTAL TO 1.2.1.				71600-Travel (local missions to velayats x 2 persons x 6 days)	\$2 000,00
					NC, IC, Institute of Seismology, Institute of Earthquake Engineering	71600-Travel (3 persons x 6 days) \$3 000,00
					PM, UNDP, Institute of Seismology	75700-Workshops and meetings (3 meetings x 2 day x 20 persons) \$5 000,00
						\$108 500,00
1.3	Assistance to Institute of Seismology in creation of new and updates of available seismic zoning maps					
a	TOR drafting for national consultant (or adjustment of TOR for already hired consultant) on seismic zoning				PM, UNDP, Institute of Seismology, Institute of Earthquake Engineering	71300 - National consultants (1 consultant x 30 days) \$6 000,00
b	A working meeting with national consultants, representatives of interested Scientific Institutes and other partners to discuss and identify required set of zoning maps, their degree of detailization, focus etc.				PM, UNDP, Institute of Seismology	75700-Workshops and meetings (1 day x 20 persons) \$900,00
c	Available data review on seismic hazards and data updates collected in the frames of other initiatives in Central Asia, data on seismic events the territory of Turkmenistan				PM, UNDP, IC, Institute of Seismology, CAIAG, GFZ	71300 - National consultants (1 consultant x 15 days) \$3 000,00
d	Practical design of maps of seismic zoning on the basis of obtained data with participation of foreign institutes involved in practical studies.				PM, UNDP, Institute of Seismology	74200- Communications and publications \$1 500,00 72100-Contracted technical services \$12 600,00

<p>Result 1.3: Number of geospatial models of earthquake susceptibility to buildings in target areas (housing stock and administrative buildings) based on building and ground characteristics</p>	<p>1.4 Interpretation of the results of surveys and observations, modelling (including geospatial models of buildings exposure to earthquakes in target areas (residential fund and administrative buildings))</p>	<p>e</p> <p>Activities to establish cooperation with Research Institute for Geological Surveys, preparation of the required to Institute of Seismology information on the levels of ground waters in Ashkhabad.</p> <p>SUBTOTAL TO 1.3.2.</p>	<p>PM, UNDP, Institute of Seismology</p>	<p>75700-Workshops and meetings (1 day x 20 persons)</p>	<p>\$1 000,00</p>
					\$25 000,00
a	Due data review obtained in the course of practical works		Institute of Seismology, Project specialists, IC on seismic zoning	71200-International consultants (1 consultant x 10 days)	\$5 000,00
b	Faults indexing with the use of relevant metadata for hazards assessment with the purpose to identify the most vulnerable geological structures meaningful for assessment of hazards to Ashkhabad		CAIAG, iPE	72100-Contracted technical services	\$3 000,00
c	Review and identification of the available data on buildings. Selection and taxonomic description of buildings.		CAIAG	75700-Workshops and meetings (2 day x 20 persons+printing)	\$2 000,00
				72100-Contracted technical services	\$5 000,00
d	Meetings with representatives of municipality, National Statistics Committee, Institute of Earthquake Engineering on city planning and design		Institute of Seismology, Project specialists, NC on seismic zoning	75700-Workshop and meetings (2 day x 20 participants + printing materials)	\$2 000,00
e	Description of territory characteristic through the analysis of satellite images and other localized data (visual component, National Statistics Committee data, direct observations)		CAIAG, Institute of Seismology, Institute of Earthquake Engineering		
f	Description of parameters of instability and vulnerability for each of the representative categories of buildings in Ashkhabad		CAIAG, Institute of Earthquake Engineering	72100-Contracted technical services	\$3 000,00
g	Design of a geospatial model of city buildings exposure with the use of all the data available		CAIAG, Institute of Seismology, Institute of Earthquake Engineering	72100-Contracted technical services	\$4 000,00
h	Seminar with participation of interested institutes of Turkmenistan, ministries and agencies, international organizations and other partners for presentation and discussion of interim results of the modelling.		PM, UNDP, Institute of Seismology	75700-Workshops and meetings (2 day x 25 participants + printing + translation+rental)	\$3 000,00
SUBTOTAL TO 1.3.2.					\$27 000,00
SUBTOTAL TO RESULT 1:					\$199 000,00
Project administration - 7%					\$13 930,00
TOTAL TO RESULT 1:				75100	\$212 930,00

<p>Scientific and technical and human resources of the Institute of Seismology is strengthened for more effective work in the field of earthquake forecasting and monitoring, as well as seismic risk assessment</p>	<p>Result 2:</p>	<p>71200-International consultants \$14 500</p> <p>71300-National consultants \$3 500</p> <p>71800-Travel \$20 000</p> <p>72100-Contracted technical services \$50 000</p> <p>72200-Equipment \$385 000</p> <p>74200-Communication and publications \$1 000</p> <p>75700-Workshops and meetings \$1 500</p> <p>75100-Project administration, 7% \$32 585</p> <p>Total \$498 085,00</p>
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<p>EXPECTED INTERIM RESULTS</p>	<p>PLANNED ACTIVITIES</p>	<p>RESPONSIBLE</p>	<p>BUDGET CODE</p>	<p>AMOUNT</p>
		<p>TIME FRAMES</p> <p>January February March April May June July August September October November December</p>		

2.1: Specification, procurement and delivery of office and other equipment to Institute of Seismology										
Result 2.1: Number of laboratories of the Institute of Seismology equipped with necessary and updated scientific and technical equipment	a	Review of implemented scientific and technical works and their interim results, identification of necessary volume of works to continue Project activities.						PM, UNDP, IC	71200-International consultants (1 consultant x 10 days)	\$5 000,00
	b	Procurement of the required equipment (office and scientific)						PM, UNDP	72200-Equipment	\$395 000,00
SUBTOTAL TO 2.1.1.										
Result 2.2: Number of employees of scientific research institutes, ministries and departments that have passed trainings and courses on modern methods of seismic risk assessment	2.2: Organization of training courses to staff from research and development institutes working in the sphere of earthquake engineering and to the specialists of line ministries working in the sphere of DRR on the quality data gathering and control for probabilistic estimates of seismic hazards with the use of modern methodologies									
	a	Work with partners (CAIAG, GEM, GFZ, IPE) to learn and study the existing methods and practice of seismic hazards assessment						PM, Project consultants and specialists	71200-International consultants (1 consultant x 7 days)	\$3 500,00
	b	Identification of dates, directions and participants of trainings						PM, Institute of seismology and national partners		
	c	Training course on quality data gathering and control of probabilistic seismic hazards assessment in Ashkhabad						CAIAG	72100-Contracted technical services	\$15 000,00
	d	Training course to assess proneness and vulnerability of buildings for specialists in the sphere of hazard risk assessment, and other interested persons						CAIAG	72100-Contracted technical services	\$15 000,00
	e	Printing of materials, reports and other documents						UNDP	74200-Communications and publications	\$1 000,00
	f	Design of TOR for a week-long study tour to (Kyrgyzstan, Russia, Armenia or Germany) for national specialists' capacity building. The purpose is to study international experience and practice on DRR						PM, Project specialists, Institute of Seismology		
	g	Organization of study tour for selected staff						PM, Project specialists, Institute of Seismology	71600-Travel	\$20 000,00
Result 2.3: Number of scientific and methodological and practical bases developed to improve the principles of existing disaster preparedness, complex monitoring and reporting of seismic events	2.3: Design of scientific and methodological materials for further training of the Research Institutes' staff									
	a	Review of modern foreign practices to analyze and assess hazards risk reduction and their applicability and efficiency in Turkmenistan, sampling of the required materials for their further introduction into the existing national mechanisms and tools.						PM, Project specialists	71300 - National consultants (1 consultant x 17 days)	\$3 500,00
	b								71200-International consultants (1 consultant x 12 days)	\$6 000,00
	c	Design of a guidelines for line ministries and agencies in their activity on hazards risk reduction, preparedness to potential earthquakes and to monitor seismic events.						PM, Project specialists	71200-International consultants	
	d	A series of working meetings and seminars to draft a concept of creation and introduction of early warning system on earthquakes and its consequent transfer to line ministries and (or) international organizations.						PM, Project specialists	75700-Workshops and meetings (3 meetings x 1 day x 15 persons)	\$1 500,00
	e	Design of materials to the leading research institutes on seismic studies with their further involvement and new staff training, and to maintain its capacities at due level.						PM, Project specialists	71200-International consultants	
	f	Printing of materials, reports and other Project documents						UNDP	74200-Communications and publications	
	SUBTOTAL TO 2.3.1.									
SUBTOTAL, RESULT 2:										
Project administration, 7%										
TOTAL, RESULT 2:										

\$11 000,00
\$465 500,00
\$32 585,00
\$498 085,00

SUBTOTAL TO 3.2.1.		SUBTOTAL TO 3.2.1.										\$3 000,00			
Result 3.3: Number of recommendations to the Ministry of Education on the inclusion of modules to assess seismic hazard and risk in the educational process of pilot universities for the further involvement of junior personnel in scientific activities.	3.3: Draft recommendations to include hazard and disaster risk assessment modules into educational programs of pilot universities														
	a	Design TOR for national consultant to prepare necessary materials and recommendations to the Ministry of Education											PM,UNDP	71300 - National consultants (1 consultant x 22 days)	\$4 500,00
	b	Gather and compile all the available basic data on the existing specializations in education on DRR, discussion of potential common grounds and introduction of the new modules in the educational system of Turkmenistan.											PM,UNDP		
	c	Consultative meetings with heads of selected universities of Ashkhabad with intention to include the modules on hazard risks assessment into curriculum and on methods of assessment of practical and scientific works.											PM, UNDP, NC, Ministry of Education	75700-Workshops and meetings (half day x 10-15 persons)	\$500,00
	d	Design a detailed educational program for its further inclusion in the present system of education											PM, UNDP, NC, Ministry of Education		
	e	Approval of programs and their approbation in practice.											PM, UNDP, NC, Ministry of Education		
	f	Report and recommendations											PM, UNDP, NC, Ministry of Education		
	g	Printing of materials, brochures and other materials											PM,UNDP		
SUBTOTAL TO 3.3.1.												\$5 000,00			
Result 3.4: Number of investment strategies for DRR at the macro level	3.4.1: review of the existing practices and mechanisms in Turkmenistan														
	a	TOR drafting, position advertising and contracting (or adjustments to the previous contract) with international consultant to draft DRR investment strategy.											PM,UNDP		
	b	Gather and summarize all collected and existing data on different strategies and principles of state budget allocation for DRR											PM,UNDP		
	c	Assessment and review of the basic conditions and financing of activities for the existing infrastructure improvement and activities to reduce consequences of potential earthquakes.											PM,UNDP		
	d	Identify measures on risks reduction to each class of assets and identification of set of examples for further works, including cost-benefit analysis for each particular case											PM,UNDP		
	SUBTOTAL TO 3.4.1.														
	3.4.2: Design of strategy, its submission and approval														
	a	Based on the methodology and plan designed by international expert, to develop a long-term state investment DRR strategy and its submission to relevant agencies for coordination and approval.											PM,UNDP		
b	Work with line ministries and other stakeholders towards adaptation and coordination of the required activities.											PM,UNDP			
c	Organization of a workshop for national and international partners, strategy presentation and coordination.											PM,UNDP			
SUBTOTAL TO RESULT 3:												\$15 000,00			
Project administration, 7%												\$1 050,00			
TOTAL TO RESULT 3:												\$16 050,00			

