

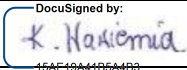
United Nations Development Programme
Project Document

Project Title: The Project for the Flood Control Using Integrated Dam Management System
Project Number: 01004180
Implementing Partner:
Start Date: 24 March 2025 **End Date:** 28 February 2027 **PAC Meeting date:**

Brief Description
The flood situation in 2024 was an unprecedented event. Frozen soil, sudden temperature rise and rainfall in conjunction with a considerable snow layer resulted in extremely high flows in the north and west of Kazakhstan. Many rivers experienced all-time high water levels and flood defence structures could not cope with the extreme flood volumes. The flood inundated large areas including settlements and agricultural zones and Aktobe was one of the hardest-hit cities in Kazakhstan. This unprecedented flood revealed that preparedness, as part of efficient flood management, was not developed as it was supposed to be. The flood early warning systems to provide sufficient lead time did not exist. Specifically, dams did not have early warning systems which means preparation and foresighted flood operation are either not in place or just based on estimations and experiences of dam operators. However, the operators lack experience in addressing the increase in flow intensity, flow variability and speed floods developed in recent years due to climate change. All in all, dams need urgent modernization in terms of three pillars: (1) Dam integrity; (2) Monitoring and dam surveillance; (3) Operation to enhance the flood management strategy in Kazakhstan, protect downstream riparians and ensure the full potential of flood attenuation of dams. Therefore, dams must be embedded into the national flood management concept of Kazakhstan as best as possible requiring the enhancement of early warning, dam monitoring, the rehabilitation of outdated structures and an update of operation rules. The project aims to enhance flood resilience in Kazakhstan by strengthening dam safety and flood preparedness, directly supporting the disaster risk reduction and water priority sectors outlined in Kazakhstan's updated Nationally Determined Contributions (NDC). The updated NDC includes a dedicated chapter on climate change adaptation, emphasizing the importance of water resources management and disaster risk reduction as national adaptation priorities. This project aligns with these goals by improving infrastructure and preparedness measures to mitigate flood risks. Additionally, it complements the UNDP's ongoing initiative to integrate national adaptation plans into regional development strategies, ensuring a unified and comprehensive approach to climate resilience and sustainable development throughout Kazakhstan. The potential beneficiaries are: - more than 580 thousand direct beneficiaries (residents of North-Kazakhstan and Kostanay regions, agricultural sectors relying on irrigation from the dams, industrial facilities near the reservoirs, and water management authorities) - more than 5.96 million of indirect project beneficiaries, which include people, benefitting from improved flood and dam safety measures. Out of 1500 hydraulic structures in the country, 537 are in need for reconstruction and according to the Ministry of Emergency Situations 304 of them pose an immediate threat to the life of the population as they are not equipped with local warning systems. Most of the structure are located in flood-prone regions (Kostanay region, Turkistan region, Aktobe, Akmola, East Kazakhstan and Karaganda region).

Contributing Outcome (UNSDCF, CPD, RPD): (UNSDCF) Outcome 3.2. (CPD) Output 4.4 - Indicator 4.4.1 Indicative Output(s) with gender marker¹: Output 1: GEN1	Total resources required:	USD 2,047,279.00	
	Total resources allocated:	UNDP TRAC:	USD 50,000.00
		Donor:	USD 1,997,279.00
	Unfunded:		

Agreed by (signatures)²:

UNDP	DocuSigned by:  15AE12AA11B5A4B3...
Katarzyna Wawiernia, Resident Representative	
Date: 24.03.2025	

¹ The Gender Marker measures how much a project invests in gender equality and women’s empowerment. Select one for each output: GEN3 (Gender equality as a principle objective); GEN2 (Gender equality as a significant objective); GEN1 (Limited contribution to gender equality); GEN0 (No contribution to gender quality)

² Note: Adjust signatures as needed

I. DEVELOPMENT CHALLENGE (1/4 PAGE – 2 PAGES RECOMMENDED)

The flood situation in 2024 was an unprecedented event. Frozen soil, sudden temperature rise and rainfall in conjunction with a considerable snow layer resulted in extremely high flows in the north and west of Kazakhstan. Many rivers experienced all-time high water levels and flood defense structures could not cope with the extreme flood volumes. The flood inundated large areas including settlements and agricultural zones and Aktobe was one of the hardest-hit cities in Kazakhstan.

This unprecedented flood revealed that preparedness, as part of efficient flood management, was not developed as it was supposed to be. The flood early warning systems to provide sufficient lead time did not exist. Specifically, dams lacked early warning systems, indicating that preparation and proactive flood management were either not in place or were based solely on the estimates and experience of dam operators. However, the operators lack experience in addressing the increase in flow intensity, flow variability and speed floods developed in recent years due to climate change.

Dams play an important role in flood management. They are able to attenuate flood peaks and provide flood protection for downstream communities and agricultural zones if flood operation is based on a good apprehension of the flood event.

Kazakhstan hosts 405 reservoirs with a total live storage of 87.8 km³. Given the average of 106 km³ total surface water resources, dams in Kazakhstan control almost 83% of surface water, which is a high value and provides the means for flood management, but this is purely theoretical. In practice, the storage volume of 87.8 km³ refers to the design stage of the reservoirs and does not reflect the currently available live storage. Live storage has been reduced by sedimentation over the years and is further constrained by ineffective water management and operation, explained in detail below.

Most dams are over 50 years old, with design standards dating back to the Soviet era when climate change was not a consideration. The hydraulic structures, appurtenances, gates, and electrical facilities were poorly maintained in the years after the Soviet Union fell apart. The conditions of the structures can be described as unsatisfactory. Monitoring of the dams is mainly restricted to minimum equipment related to water level observations. Readings are all made manually. A dam surveillance program is not in place and automated data transmission is not established.

Almost all dams are multi-purpose reservoirs with contradicting purposes such as flood mitigation and water supply (domestic, irrigation). Some dams possess additional purposes like hydropower and low-flow augmentation. Some dams with high head have a considerable potential for hydropower but do not have turbines. The operation of multi-purpose dams requires complex water management rules to balance contradicting purposes and to enable the full potential of a dam. This is at stake due to different factors:

- Water demand and water users have changed over the years and assumptions made when the reservoirs were planned differ largely from current conditions.
- Water allocation based on false assumptions deteriorates the usefulness of a reservoir and leads to wrong decisions in terms of water management, flood control, drought contingency, etc.
- No updates of the bathymetry have been made since the dams were commissioned and the original level-area-volume relationships are not valid anymore. This causes uncertainty about actual available storage volumes.

All in all, dams need urgent modernization in terms of three pillars: (1) Dam integrity; (2) Monitoring and dam surveillance; (3) Operation to enhance the flood management strategy in Kazakhstan, protect downstream riparians and ensure the full potential of flood attenuation of dams.

Therefore, it is essential that dams be fully integrated into Kazakhstan's national flood management concept. This integration requires the enhancement of early warning systems, improved dam monitoring, the rehabilitation of outdated infrastructure, and the updating of operational guidelines.

The rehabilitation of existing dams should be prioritized over the construction of new ones. A dam represents a significant intervention that impacts the environment, alters the hydrological regime, and affects river-morphological processes. Dismal operation and unsatisfactory safety conditions of existing dams should not trigger the erection of new dams since new dams neither solve the safety problems of existing dams nor the problem of bringing existing infrastructure back to efficient water management. On the contrary, existing dams with an elevated risk of failure will threaten new dams if located downstream (cascading failure event).

The aforementioned statements are backed and partly originate from a technical mission to Kazakhstan led by Japan International Cooperation Agency (JICA) in July 2024 in order to conduct a rapid dam assessment of 13 dams. The JICA's technical mission assessed dams in following regions: Akmola region (Seletinje, Astana, and Chaglin reservoirs, and Preobrezhensky HPP), Astana protective dam, Karaganda region (Shokai, Samarkand, Yntumak reservoirs), West Kazakhstan region (Bitik, Donguluk reservoirs), and Aktobe region (Aktobe, Kargala, Sazda reservoirs). For the JICA mission, the Ministry of Water Resources and Irrigation of the Republic of Kazakhstan (MWRI) selected dams in Western Kazakhstan that were affected by the flood in 2024. The JICA mission revealed that only one dam showed damage that is attributable to the flood event in 2024. The other dams had structural issues due to their age and due to lack of maintenance. However, the JICA mission that identified critical issues at dams in West Kazakhstan revealed the importance and necessity of investigation of dams in the flood-affected regions. The JICA mission triggered follow-up action for the Ministry to conduct further assessment and investigation in the North of Kazakhstan, a region known to be prone to flooding. Through this follow-up investigation, it turned out that these dams face similar problems and – on top of structural problems – they have vulnerable municipalities located downstream dams. As a result, this JICA mission initiated as a swift response to an unprecedented flood event in 2024 triggering follow-up actions led to the development of this Project to address the most significant problem regarding dams and flood resilience in Kazakhstan. After weighing the urgency of intervention in combination with the frequency of flooding that occurs in different regions, the Ministry decided to put the dams in Northern Kazakhstan at the highest priority. Specific reasons for prioritization are:

1. the exposure of downstream communities and the direct impact dam problems would bring to these communities
2. the frequency of flooding at the dams in northern Kazakhstan is generally higher compared to Western Kazakhstan. Although the event 2024 was extreme in Western Kazakhstan, the flood susceptibility in Northern Kazakhstan is generally higher than in Western Kazakhstan and puts regular pressure on the structural integrity of the dams.

The shift to the dams in Northern Kazakhstan also helps address community resilience to flooding more substantially. The location of communities immediately downstream of the dams or within the impact zone of dam releases calls for proper monitoring and early warning systems. Neither monitoring/automation nor early warning systems are in place at the dams in Northern Kazakhstan. This is why the proposal highlights the need to apply a combined approach with a) assess structural integrity based on a multi-functional dam assessment approach and b) the introduction of adequate monitoring and early warning systems to enhance lead time significantly and improve flood operation, such as early warning equipment in the sense of sirens, loudspeaker, other technology to issue warnings and to reach the last mile. The flood situation in 2024 revealed a lack of preparedness and adaptive flood operation. Dams were not damaged in 2024 but neither did they contribute to flood attenuation to the extent possible due to the absence of proper

monitoring and flood early warning systems in combination with outdated operation rules and unreliable gates, valves, and appurtenances.

The fact that two dam breaks happened in Kazakhstan in the past 14 years, the Kyzylagash dam in 2010 (Zhetysu oblast) and the Kokpektinskaya dam in 2014 (Karaganda oblast), is evidence that threats are real and action is needed. The Ministry of Emergency Situations of the Republic of Kazakhstan states that the requirements for safe operation are not met in most infrastructures. Results from the JICA dam assessment mission underline the necessity to take action. The Aktobe dam shows damage due to the flood in 2024, which needs to be addressed prior to the next flood season. Kargali dam in Aktobe region has no bulkhead gate, preventing maintenance work at the sluice gate. Donguliuk dam needs urgent replacement of the entire gate structure as it shows a major leak and its attachments are worn out. Seletinskoje dam in the Akmola region shows significant leakage between the concrete sidewall of the spillway and the earthen dam body. Leakage is also assumed at the Shokai dam in the Karaganda region. These are examples demonstrating the mixture of problems and the urgency for measures.

The major concern is the unfavorable overlap of various factors, which gradually evolved over the years until the full extent emerged during the flood in 2024. The unusual flood conditions in 2024 caused backwater conditions in tributaries along the major rivers in the north of Kazakhstan, mainly at the Ural River but also at Tobol, Ishim and others. Tributaries could not drain due to high water levels in the main river, which has caused exceptional water levels in the tributaries. Backwater and extreme water levels also reached the downstream faces of dams. Many dams are not designed for such high tailwater levels and the conditions of structures and gates do not allow proper operation under these conditions. The result is that dams cannot be operated as it is supposed to be with various consequences: additional uplift, a rise of seepage line in the earth dams, prevention of flood operation, and significant reduction of flood attenuation putting downstream settlements at risk. Each problem in itself may not bring a dam to the brink of failure; however, the overlap of various problems can cause a dam failure. Combinations of adverse and overlapping conditions are called failure modes. A failure mode analysis shows which combinations have the highest probability of occurrence. Failure modes develop along the combinations of adverse weather conditions in conjunction with maloperation, undetected problems (mostly leakage), misconception of operation when problems are misinterpreted, power cuts, understaffing, blockage of gates and other difficulties.

Another aspect is outdated operation rules. Full supply levels are still following the higher demand of the past and prevent bigger flood buffers. Finally, sedimentation has reduced the storage volume and water levels rise faster than expected.

All in all, dams must be embedded into the national flood management concept, which requires the review of concepts at a national level on monitoring, flood operation and dam integrity.

II. STRATEGY (1/2 PAGE - 3 PAGES RECOMMENDED)

A) Project Objective and Rationale

The main objective of the Project is to develop a National Monitoring System for the security of hydrotechnical structures and operationalize the System as part of the country's flood early warning and preparedness approach. The aim of this project is to integrate water infrastructure, especially dams, into the national flood management and preparedness strategy by

1. developing the dam flood and safety management concept
2. pilot the assessment of dams with the new flood and safety management concept
3. making dam integrity, dam monitoring and surveillance, and reservoir operation an integral part of the national water information system

The flood problem is manifold and spans across topics such as but not limited to early warning systems with an extension of lead time and an increase in accuracy; flood anticipation due to forecasted inflow information; adaptive flood operation of dams in combination with flexible and regulatable structures; dam integrity during flood events also in the light of increasing flood intensities due to climate change; and flood preparedness, flood protection, and damage reduction of settlements.

Dams play a major role in mitigating the impact of floods and to buffer hydrological extremes. When dams are prepared for floods, they will also contribute to the robustness of water management in Kazakhstan in a wider sense. Damage reduction due to better reservoir operation along with risk reduction of a dam failure are important elements in the context of future economic development and climate change.

Flood preparedness with regards to flood early warning and adaptive flood operation at dams has become a priority after the flood event in 2024 and is in line with the general goal of establishing a national water information system with the integration of flood early warning systems.

JICA's rapid dam assessment mission is based on 13 dams all of which are located in the north and west of Kazakhstan. The results clearly indicate the need for action. A scenario without any intervention is not imaginable as it would ignore the critical safety aspect of dams and their big impact on flood and water management in Kazakhstan.

Safety-relevant issues are deteriorated spillway gates and leakage from embankment as was observed at some dams/reservoirs by JICA. JICA states that failure might occur in upcoming emergency operations during floods.

The fact that the stored water is not utilized is a severe water management issue with far-reaching consequences to other sectors such as water supply, agriculture, environment, and water quality and exacerbates the already apparent water stress in Kazakhstan.

Reservoirs are the most important structures for combating the increasing variability of river flows. They mitigate the increase in flow during the snow melt season and provide the means for water supply during the dry season if the operation is up to date. Both safety and water management issues call for action as soon as possible.

MWRI is aware of the problems and has initiated an action plan on water, which embraces dams and their modernization. Immediate action is stressed as a key priority. The urgency of the work proposed cannot be funded solely by the government due to current budgetary constraints and priorities. Kazakhstan operates a result-oriented model of public administration based on a three-year budget planning cycle and immediate funds to tackle the situation are therefore challenging.

However, recent unprecedented flooding has severely impacted many regions, resulting in thousands of people being displaced. The government has prioritized immediate relief efforts, including the reconstruction of damaged houses and the construction of new homes for affected families. This significant and unforeseen expenditure has consumed a considerable portion of the limited budget, leaving little room for additional urgent initiatives. Given the magnitude of the flooding, resources have been diverted to provide emergency aid, temporary shelters, long-term housing solutions and infrastructure rehabilitation. In the Aktobe Region alone, more than 140 million US dollars (66.2 billion tenge) has been allocated from the local budget and through sponsorship for flood recovery efforts.

Alternative sources were tapped such as the UN Crisis Bureau support, but the fund made available through the UN Crisis Bureau is small and covers an initial flood reconstruction assessment at the Ural River and at Aktobe dam. Since the action is required prior to the next flood season, it is unconditionally necessary to seek support through external funding sources, such as Grand Aid funding modality by Regular ODA budget. The time until the government is able to enter into the next budget cycle can be bridged with acquired fund so that the continuity of necessary action is ensured. UNDP TRAC funding allocated to support some floods forecasting and management activities.

B) Project Outputs and Activities

The Project intends to implement its intervention through the following activities under five outputs.

- **Output 1: Development of the national dam flood and safety management concept**

Activity 1.1: Define of best practice for the three pillars dam integrity, monitoring, operation. Integration of ICOLD standards.

Activity 1.2: Develop annual dam safety reports template as mandatory instrument for safety review.

Activity 1.3: Devise the approach to identify the dam impact zone with affected people, settlements

Activity 1.4: Define the content of a comprehensive dam safety review and its time interval.

Activity 1.5: Draft the content of gender responsive Emergency Preparedness Plans (EPP) as integral part of the flood and safety management concept.

Activity 1.6: Review roles and responsibilities related to the supervision of flood management and adherence to dam safety regulation

- **Output 2: Pilot the assessment of dams with the new flood and safety management concept**

Activity 2.1 Perform the multi-functional dam assessment for the selected dams

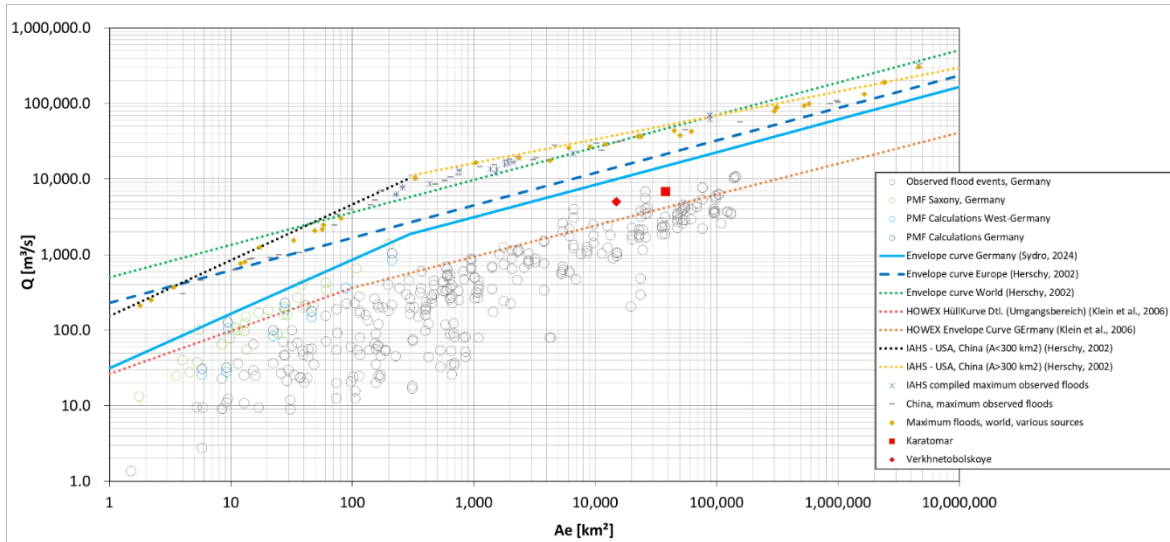
Activity 2.2 Identification of most urgent measures related to monitoring, automation and operation as a result of the multi-functional dam assessment.

Activity 2.3 Cost estimation, planning, design

Activity 2.4 Implementation of a monitoring and dam surveillance system including hardware for early warning communication and automation at one dam

Many dams were affected during the flood event in 2024. However, the lack of an early warning system in combination with deficient structures prioritizes three dams for urgent intervention:

Dam	Description	Catchment
Verkhnetobolskoye and Karatomar dam	Location: Tobol River, Kostanay Region Potentially Affected Cities: Kostanay (268,000 inhabitants) and Tobol (30,000 inhabitants) Dam cascade from Verkhnetobolskoye to Karatomar reservoir Verkhnetobolskoye dam was commissioned in 1972. The reservoir provides multi-year regulation. The live storage of the reservoir is 817 million m³. The spillway is designed for 5020 m³/s with a catchment area of the dam of approx. 15,000 km². Karatomar reservoir provides multi-year regulation. The live storage of the reservoir is 586 million m³. The spillway is designed for 6850 m³/s with a catchment area of the dam of approx. 38162 km².	
Sergeevskoye dam	Location: Ishim River, North-Kazakhstan region Potentially Affected Districts and Cities: Shal-Akyn (17,000), Esil (21,000), Kyzylzhar (46,000), and Petropavlovsk (222,000 inhabitants)	



The spillway capacities of Karatomar and Verkhnetobolskoye can be included in Envelope Curves following the approach of Francou-Rodier where maximum flood peaks are illustrated based on their catchment area. The design capacities of both dams are just as high as flood observations in Germany and less than all other envelope curves based on various sources.

The three dams receive the highest priority according to RSE Kazvodkhoz since they are critical infrastructures upstream of Petropavlovsk and Kostanay. Verkhnetobolskoye, Karatomar and Sergeevskoe lack entirely any automated devices to monitor, control and operate the dams. There is no communication system in place, which would allow to trigger a reliable and fast notification chain and communication with affected stakeholders. The dams pose a risk to more than half a million inhabitants living downstream of the dams.

According to ICOLD criteria, all three dams are classified as large dams which means the highest safety standards are to be applied. The dams are older than 40 years. The reservoirs are classified as water management facilities of national significance for meeting water needs of agriculture, industry and the population and are supposed to contribute to flood attenuation. The city of Petropavlovsk is 160 km downstream of Sergeevskoe Dam, the city of Kostanay is 47 km downstream of the dam cascade Verkhnetobolskoye and Karatomar. Many villages are in close vicinity to the dam and within the impact zone of the dams in case of a dam break.

In the event of a dam failure, downstream settlements have less than 30 minutes up to a maximum of 2 hours for evacuation. The city of Rudny, located immediately downstream of the Karatomar dam with 114,000 inhabitants, has more or less zero lead time. The Ishim River, downstream of the Sergeevskoe dam, is a braided river with a flood plain. Although a considerable flood attenuation would take place, a number of villages are located in the flood plain and would be destroyed in the event of a dam failure.

The total costs for rehabilitation of unreliable structures at the three dams are estimated to be approximately 10 million USD and exceed the available budget. Therefore, the suggested project is tailored to perform the multi-functional dam assessment, implement soft- and hardware for an early warning system and equip one dam with devices for automated monitoring, dam surveillance and operation.

Details of the dam surveillance system will be identified after the inspection at the dam site. Based on the experience from other dam sites, it is likely that the following equipment is needed:

- **Piezometric pressure**

Observation of seepage line in the dam body is a fundamental principle of dam surveillance and an important aspects of dam design and construction. Seepage flow in the dam is defined as the movement of water from the

upstream side of the dam to the downstream side through embankment or below the foundation or base. Piezometric wells monitor water level and pressure in the dam body. A seepage problem must be identified as early as possible since it will directly affect the stability of embankments and slopes due to the rising of pore water pressure. Seepage increase is a cause for internal erosion which may further lead to piping. In civil engineering, a seepage analysis – as part of regular dam inspection and part of a dam surveillance program – is carried out to analyse the phreatic line, the pore pressure within the dam or in its foundation. It aims at estimating the amount of seepage flow that may pass through the cross-sections of the dam.

The number of piezometers required cannot be said in advance. The usual design considered steel casings with outer diameters of around 220mm, wide enough to fit observation devices such as electric contact gauge.

Piezometers should be equipped with submersible piezometric level sensors and connected to an automatic control system.

- **Monitoring water levels and releases**

The water level of the reservoir is the essential state that needs to be monitored automatically. An ultrasonic level sensor could be used to measure the water level in the reservoir including a data logger and data transmission.

The position of the sluice gates, indicating releases through spillways, are needed to monitor and record the amount of flow leaving the reservoir. Gates can be equipped with absolute cable encoders measuring the longitudinal movement of the sluice gates.

- **Seepage measurements**

Seepage measuring devices are used in embankments to measure amounts of seepage through, around, and under the embankment. The first indication of a potential problem is often given by an observed change of seepage rate. Also monitoring the solids content in the seepage water can provide important information. Observations of seepage rate can be correlated with measurements of piezometric pressure. Relief wells, drainage outlets, channels, and ditches are common measuring points of seepage.

What type of measurement device is needed depends on the specific situation at the dam site and the drainage system implemented at the dam foot. Freezing conditions might impact on the selection of the equipment.

- **Digital information management and control system**

Digital instruments and/or controls are used to permanently monitor the performance and conditions of a dam. The systems can be used to remotely monitor the condition of the dam or water level in the reservoir, operate gates and valves, and regulate water flow. There are three types of systems:

- SCADA
- EWS (Early Warning Systems)
- Video Surveillance

Supervisory Control and Data Acquisition (SCADA) is a system that collects information and control various processes at the dam site and gives dam owner full control about their dam. A SCADA system should include observations that help improve dam safety with various types of sensors, for example seepage control, pore water pressure, reservoir/tailwater level monitoring, stream gauges and weather measurements. A SCADA system provided input for an EWS.

An Early Warning System (EWS) is equipped to transmit and process data including flow forecasting and ideally early warning notification features. Typically, it can operate without the need of human intervention. An EWS

depends on the existence of an automated dam monitoring system, for example a SCADA system, from which data are transmitted regularly. Early Warning System is described in Output 3.

Video Surveillance systems provide real-time monitoring of dams through cameras and real-time transmission to an operation centre. It enables operators to observe the structure and surrounding areas continuously. High-resolution cameras are strategically positioned to capture key areas. Spillway, dam crest (if accessible by public), the dam face, downstream areas, etc, are key locations. This real-time monitoring allows for the early detection of seepage, cracking, or unusual movement, which may indicate potential safety risks.

A detailed description of needs including number of piezometers wells, if any, cable decoders, water level sensors, cameras, and the equipment of an operation centre is the output of the activities 2.1, 2.2 and 2.3 and cannot be predetermined in advance. Whether other measurements and devices are required such as seismic events, temperature, deformation must be decided after the multi-functional dam assessment took place. Indicated details of budget, types, and number of equipment needed are tentative and will be adjusted after the assessments.

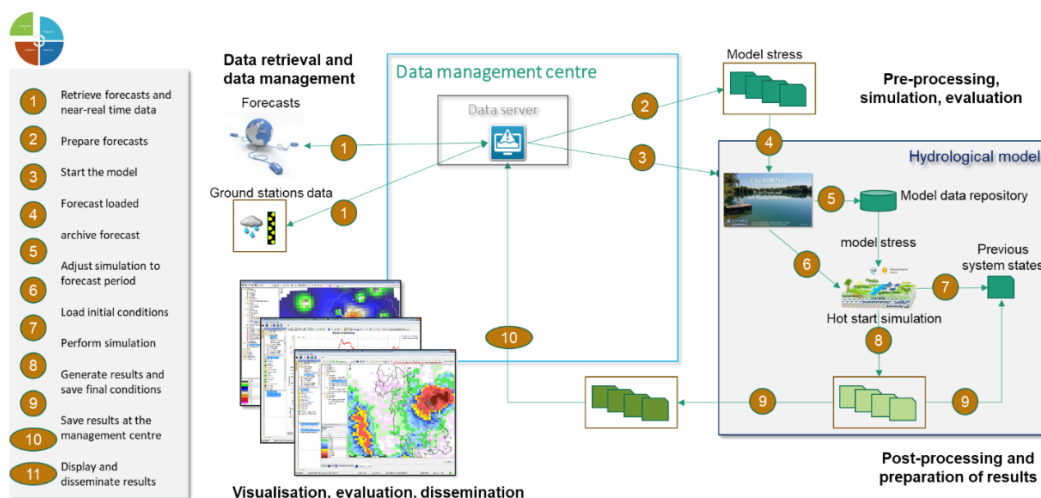
- **Output 3: Implementation of a demonstration pilot for an Early Warning System (EWS) for a dam with potential for scaling up**

Activity 3.1: Setting up the EWS environment for one dam/catchment

Activity 3.2: Perform model calibration

Activity 3.3: Testing and operationalization of an early warning system

The concept of the Early Warning System (EWS) is illustrated in the image below. It is based on the Delft-FEWS software environment with the TALSIM model running as hydrological model within the frame of Delft-FEWS. Both tools are free and capacity building has already been arranged or is already ongoing with support from the Netherlands and UNDP. The software will be embedded in the National Water Information System and will be available for the reservoir operators.



- **Output 4: Integration of dam integrity, dam monitoring & surveillance, reservoir operation to the national water information system**

Activity 4.1: Definition of metadata which best represent dam integrity, monitoring & surveillance and operation including the dam classification system of ICOLD.

Activity 4.2: Enhancement of the water information system metadata

Activity 4.3: Collection of dam metadata from the 405 existing reservoirs in Kazakhstan.

III. RESULTS AND PARTNERSHIPS (1.5 - 5 PAGES RECOMMENDED)

Expected Results

- The project aims to enhance flood resilience in Kazakhstan by strengthening dam safety and flood preparedness, directly supporting the disaster risk reduction and water priority sectors outlined in Kazakhstan's updated Nationally Determined Contributions (NDC). The updated NDC includes a dedicated chapter on climate change adaptation, emphasizing the importance of water resources management and disaster risk reduction as national adaptation priorities. This project aligns with these goals by improving infrastructure and preparedness measures to mitigate flood risks. Additionally, it complements the UNDP's ongoing initiative to integrate national adaptation plans into regional development strategies, ensuring a unified and comprehensive approach to climate resilience and sustainable development throughout Kazakhstan.
- The Project will strengthen Kazakhstan's flood resilience by developing a dam flood and safety management concept, piloting its assessment, and integrating dam integrity and monitoring into the national water information system for enhanced flood early warning and preparedness.
- The potential beneficiaries are:
 - more than 580 thousand direct beneficiaries (residents of North-Kazakhstan and Kostanay regions, agricultural sectors relying on irrigation from the dams, industrial facilities near the reservoirs, and water management authorities)
 - more than 5.96 million indirect project beneficiaries, which include people, benefitting from improved flood and dam safety measures. Out of 1500 hydraulic structures in the country, 537 are in need of reconstruction and according to the Ministry of Emergency Situations 304 of them, pose an immediate threat to the life of the population as they are not equipped with local warning systems. Most of the structures are located in flood-prone regions (Kostanay region, Turkistan region, Aktobe, Akmola, East Kazakhstan and Karaganda region).

Resources Required to Achieve the Expected Results

- The Project will be managed by the UNDP Project Manager located in the UNDP Office in Astana, Kazakhstan.
- In order to achieve the above-mentioned results, the Project requires the involvement of highly qualified experts.
- In this regard, the Project will involve a national expert and an associate to support the implementation. The international experts will be engaged with meaningful experience in the field of dam management and flood resilience necessary to support the execution of the activities.

Partnerships

- **Potential Project Partners**
 - Ministry of Water Resources and Irrigation of the Republic of Kazakhstan, Ministry of Emergency Situations of the Republic of Kazakhstan, RSE on the right of economic management "Kazvodkhoz" of the Committee for Water Resources, Akimats of pilot regions and other local authorities are potential

partners of the Project in Kazakhstan. Local NGOs and communities are also the Project's potential partners.

- The Project will seek to engage various Japanese agencies as potential partners, aiming to leverage their expertise in specific areas to enhance Kazakhstan's flood resilience. The University of Tokyo could be involved to provide academic research and insights, particularly in the integration of dam integrity into the national water information system. Collaboration with Kyoto University's Disaster Prevention Research Institute (DPRI) is intended to explore methodologies for disaster prevention and management, focusing on dam safety and flood risk reduction, while Nagoya University's Disaster Mitigation Research Center (DMRC) may be engaged to pilot the dam safety assessment using advanced disaster mitigation techniques and to assist in integrating findings into national frameworks.
- The Asian Disaster Reduction Center (ADRC) could be considered to facilitate knowledge exchange and share best practices in flood resilience and disaster management, promoting regional cooperation. The Japan Water Agency might offer its expertise in water resource management, particularly in integrating dam operations with flood management strategies. Collaboration with the National Research Institute for Earth Science and Disaster Resilience (NIED) will be sought to develop and test models for dam safety and flood management, providing scientific support for resilience-building efforts. Lastly, the Japan Commission on Large Dams (JCOLD) could be engaged to offer guidance on best practices and international standards for dam construction, maintenance, and safety, ensuring that the project aligns with global benchmarks.
- As the Project includes hardware components throughout its activities, utilizing adequate equipment is crucial for successful implementation. The Project will adhere to international best practices and utilize high-quality equipment to ensure optimal outcomes. To enhance its effectiveness, the Project may leverage support from the Japanese government, UNDP Japan Unit to cooperate with Japanese companies that can provide high-quality equipment. Embassy of Japan in Kazakhstan and JICA will be consulted to explore the deployment of advanced technologies and best practices from Japan, including those offered by the Bosai Platform.
- The Project plans to leverage advanced technologies and solutions for video surveillance, early warning communication (loudspeakers, sirens, etc.), dam control management systems, river monitoring systems, river basin management, flood control systems, and any other relevant products from leading companies like Japan Radio Co., Ltd. (JRC), TOA, Takuwa, OPTEX Co., Ltd., Fujitsu, etc. These companies are recognized for their extensive experience and high-quality products in areas such as flood early warning systems and flood resilience.
- While these potential partners have been identified based on initial research, the final decision regarding the partnership establishment, procurement of equipment and products will be made in accordance with UNDP's rules and regulations.

- **Potential partnership with Japanese agencies and companies**

- The Project aims to forge potential partnerships with various Japanese agencies and companies to enhance Kazakhstan's flood resilience through collaborative efforts in key areas. These partnerships will focus on leveraging Japanese expertise in technical support, academic research, disaster prevention methodologies, and advanced disaster mitigation techniques. The Project seeks to engage partners who can contribute to the development and implementation of a comprehensive dam flood

and safety management concept, as well as the integration of dam integrity monitoring into Kazakhstan's national water information system.

- Additionally, the project will explore collaborations to ensure knowledge exchange on best practices in disaster management and flood resilience, along with guidance on international standards for dam construction, maintenance, and safety, will also be key components of these partnerships. Through these collaborations, the Project aims to build a robust framework for flood preparedness and dam safety that aligns with global benchmarks.

Risks and Assumptions³

- **Following are a few possible risks in implementing the Project:**
 - Incomplete data;
 - Change in the government priorities;
 - Lack of cooperation from stakeholders;
 - Difficulty in hiring adequate contractors or companies;
 - Interruption or delay of activities due to additional flood events in the affected areas
 - Other unforeseen technical issues;
 - Delays of works due to issues related, but not limited, to above mentioned risks.
- The risks identified above are based on risk assessment and assumptions made at the development stage of this project document. Those risks are subject to change as the Project initiates and continue its implementation. New risks may be identified along the way or listed risks may be resolved and no longer be relevant after a certain time frame.
- The Project outputs and activities will be designed to adequately address the possible risks, and the Project team will closely engage with the beneficiaries and other stakeholders to ensure efficient and effective implementation of the Project activities. Overall, risk monitoring and management will be carried out according to the monitoring plan and the Project team will address the identified risks to reduce or remove the threat they pose upon the achievement of intended results.

Stakeholder Engagement

- The Ministry of Water Resources and Irrigation is the key stakeholder and at the same time the main beneficiary of the Project. The Project will mainly support the Ministry in developing and operationalizing a national monitoring system for improving flood early warning and preparedness in Kazakhstan. UNDP has been closely coordinating with the Ministry to provide efficient and focused support by identifying their needs and incorporating them into the Project.
- Other relevant Ministries, such as the Ministry of Emergency Situations, and local authorities are also important stakeholders of the Project. In implementing the Project, actively engaging with the local authorities of the pilot project is essential for the smooth and efficient execution of the project.

Gender

- The greater impact of water resource-related issues on women and girls is revealed through various studies and reports, however, women and girls are under-represented in the water resources management sector to

³ Will be identified further during full proposal development stage

adequately address the existing gender gap. Therefore, it is important to acknowledge the gender gap in the water resources management sector and put efforts to enhance the representation and involvement of women. In this regard, the Project aims to approach activities with a gendered lens where possible, such as in identifying impacts of dams or development of gender responsive Emergency Preparedness Plans.

South-South and Triangular Cooperation (SSC/TrC)

- Kazakhstan is not the only country facing challenges related to outdated dams that are increasingly unable to address intensifying floods due to climate change. Other Central Asian countries face similar issues with aging Soviet-era dams and the growing water-related challenges exacerbated by climate change, which puts additional stress on these old structures. The successful implementation of the Project could pave the way for future regional cooperation in knowledge exchange and the sharing of best practices and lessons learned. Additionally, a key component of the Project is the modernization of the flood early warning and preparedness system through digital tools and mechanisms. This demonstrated approach could be scaled up across the Central Asian region, with the potential to establish an interconnected and synchronized EWS.

Digital Solutions

- The main component of the Project is modernizing the monitoring system of the dams including and linked with flood early warning and preparedness systems. The Project acknowledges the importance of data collection in order to build the system for early warning system and enhance preparedness for floods. Digitalizing the data and automation with adequate hard- and software is the core of the Project, which will ensure sustainable continuation of the system beyond the Project duration.
- Digital solutions are utilized in monitoring, operation and dam surveillance and constitute the main components of the Project. This is a prerequisite to increase efficiency of operation and enhance dam safety.

Knowledge

- The Project will produce several knowledge products that can be utilized beyond the lifespan of the Project and replicated in other regions all across the country and possibly in the Central Asian region.
- A template for an annual dam safety report will be developed under Output 1, which will be applied nationwide following successful implementation in the pilot region.
- Methodologies and contents developed for Emergency Preparedness Plans are another knowledge product of the Project that can be replicated in other regions facing similar issues related to flood and dam management.

Sustainability and Scaling Up

- The Project is designed with a strong focus on sustainability, ensuring that its outcomes are fully integrated into Kazakhstan's national flood management strategy. The full integration of dams into this strategy is crucial for long-term flood risk management, and the Project aims to achieve this through several key interventions.
- The Project will establish and modernize EWS for dams, which will be critical for timely and effective flood management. These systems will be designed for scalability, allowing for nationwide implementation. By integrating EWS into the national flood management concept, the Project ensures that these systems remain operational and effective long after the Project concludes.
- The Project will enhance dam monitoring by introducing advanced technologies and methodologies. This will include the development of real-time monitoring systems that provide critical data for decision-making. The

sustainability of these systems will be secured through capacity-building efforts that train local authorities and engineers, ensuring they can maintain and operate the monitoring systems independently.

- The Project will focus on the rehabilitation of outdated dam infrastructure, ensuring it meets modern safety standards. By updating these critical structures, the Project not only addresses current vulnerabilities but also creates a foundation for long-term resilience. The rehabilitation efforts will be aligned with national policies, ensuring their sustainability and integration into ongoing infrastructure management programs.
- The Project will develop and implement updated operational guidelines for dam management, reflecting the latest best practices and technological advancements. These guidelines will be institutionalized within national regulatory frameworks, ensuring that they are consistently applied and updated as needed. This institutionalization will contribute to the long-term sustainability of the Project's outcomes.
- Throughout the Project, beneficiaries, including the Ministry of Water Resources and Irrigation, Ministry of Emergency Situations, the Ministry of Environment, and other relevant stakeholders, will be actively involved to ensure national ownership. The establishment of a National Coordination Body at the outset will facilitate this engagement. Additionally, capacity-building initiatives will be embedded in various activities, enhancing the skills and knowledge of local authorities, engineers, and other key stakeholders to ensure the sustainability of impacts and activities.
- While the primary focus is on Kazakhstan, the Project also considers the potential for scaling up its results across the Central Asian region. The challenges related to outdated dams and flood management are common across the region, and the Project's successes could serve as a model for neighbouring countries. This regional scaling up could be facilitated through cross-border knowledge exchange and collaboration, laying the groundwork for broader regional cooperation in dam safety and flood management.
- The Project presents an opportunity to create synergy with a regional project on Enhancing Urban Resilience to Disaster Risk and Climate Change in Central Asia, also supported by the Government of Japan. Preliminary consultations with the Government of Kazakhstan have explored the regional project's piloting component, which allows the country to select its area of thematic focus. These discussions indicate that the regional project will encompass efforts to address flood preparedness and safety within urban areas, and the Project can seek ways to possibly create synergy in establishing flood resilience in Kazakhstan.
- By embedding sustainability into every aspect of the Project, from capacity building to infrastructure rehabilitation, and by aligning with national strategies, the Project ensures that its outcomes will endure beyond its lifecycle, contributing to long-term resilience and effective flood management in Kazakhstan and potentially across the region.

IV. PROJECT MANAGEMENT (1/2 PAGES - 2 PAGES RECOMMENDED)

Cost Efficiency and Effectiveness

- The cost-effectiveness and expected results of this Project are based on best practices and lessons learned from previous UNDP projects. The Project will be economically viable by adhering to standard UNDP rules and procedures. Project management will include structured and consistent planning of project activities, as well as financial planning. During the implementation, new methods, mechanisms, and financial instruments will be widely used to ensure economic efficiency and effectiveness.

Project Management

- The Project will be managed and implemented by the UNDP Country Office (CO) in Kazakhstan, which will involve a professional Project team comprised of a Project Manager, National Expert, and a Project Associate possessing the required expertise, management, and analytical skills.
- It is expected that the Project office will be in Astana and project staff will travel as needed. Consultants and national partners will also help to maintain the Project's presence outside of Astana.
- The UNDP programme staff will closely supervise all stages of the Project's implementation. The Project team will be supported by the inhouse operation capacity, the UNDP CO Operation services during Project implementation.
- The United Nations Volunteer (UNV) Programme is an additional opportunity, which can be tapped in order to provide assistance to various topics related to knowledge management and communication. A Japanese UNV will be involved in the Project as a Knowledge Management and Communications Specialist. The support can be framed around data management, data collection and complex data presentation; communication between stakeholders with very different backgrounds, from technical level to citizens living in a potential flood affected zone.

United Nations Development Programme

Project Document

V. RESULTS FRAMEWORK⁴**Intended Outcome as stated in the UNSDCF/Country [or Regional] Programme Results and Resource Framework:**

Outcome 3.2. By 2025, all people in Kazakhstan, in particular most vulnerable, benefit from increased climate resilience, sustainable management of environment and clean energy, and sustainable rural and urban development.

Outcome indicators as stated in the Country Programme [or Regional] Results and Resources Framework, including baseline and targets:

The establishment of an integrated policy/strategy/plan providing adaptation to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production

Baseline: 0 (2020)

Target: One national adaptation plan and nationally determined contribution implementation plan addressing gender dimensions are in place (2030)

Output 4.4: Climate change measures integrated into national policies, strategies and planning

Indicator 4.4.1: Low emission and climate resilient objectives incorporated in national, sub-national and sectoral development plans and policies to promote economic diversification and green growth

Baseline: 6 (2020)

Target: >6 (2025)

Data source, frequency:

UNDP, annually

Applicable Output(s) from the UNDP Strategic Plan:

3.1 Institutional systems to manage multi-dimensional risks and shocks strengthened at regional, national and sub-national levels

Project title and Quantum Project Number: The Project for the Flood Control Using Integrated Dam Management

EXPECTED OUTPUTS	OUTPUT INDICATORS ⁵	DATA SOURCE	BASELINE		TARGETS (by frequency of data collection)				DATA COLLECTION METHODS & RISKS
			Value	Year	Year 1	Year 2	Year 3	FINAL	
Output 1	1.1 Increased integrity of dams through exposure to best practices and	<i>Training reports</i>	405	2025	30%	30%	0	60%	<i>Document review, site visits, technical meetings</i>

⁴ UNDP publishes its project information (indicators, baselines, targets and results) to meet the International Aid Transparency Initiative (IATI) standards. Make sure that indicators are S.M.A.R.T. (Specific, Measurable, Attainable, Relevant and Time-bound), provide accurate baselines and targets underpinned by reliable evidence and data, and avoid acronyms so that external audience clearly understand the results of the project.

⁵ It is recommended that projects use output indicators from the Strategic Plan IRRF, as relevant, in addition to project-specific results indicators. Indicators should be disaggregated by sex or for other targeted groups where relevant.

EXPECTED OUTPUTS	OUTPUT INDICATORS ⁵	DATA SOURCE	BASELINE		TARGETS (by frequency of data collection)				DATA COLLECTION METHODS & RISKS
			Value	Year	Year 1	Year 2	Year 3	FINAL	
Development of the national dam flood and safety management concept	comprehensive assessment approach. (% of dams covered)								with various departments. Concept approval. Training sessions held.
	1.2 Capacity of dam managers on the application of new approach to dam safety improved (% of dam managers in Kazakhstan)	Training reports	405	2025	30%	30%	0	30%	Training sessions held.
Output 2 Pilot the assessment of dams with the new flood and safety management concept	2.1 Capacity of dam operators on detection, interpretation, and diagnoses of readings with the new dam monitoring improved (% of dam operators in Kazakhstan)	Training reports	405	2025	30%	30%	0	60%	Trainings on site including manuals.
	2.2 Number of people benefitting from improved dam safety monitoring	Maps and existing census	0	2025	120K	200K	0	320K	Maps and number of residents.
	2.3 The risk of undetected dam failure reduced in pilot dam (piping) (%)	Monitoring reports	405	2025	0	35% (seepage, piping)	0	35%	Piping of dams and base failure is addressed, which is responsible for roughly 35% of all dam failures.
Output 3 Implementation of a demonstration pilot for an Early Warning System (EWS) for a dam with potential for scaling up	3.1 Capacity of dam managers on the use of the Early Warning System improved (% of dam managers in Kazakhstan)	Training reports	405	2025	30%	30%	0	60%	Training sessions held.
	3.2 The risk of undetected dam failure reduced in pilot dam (overtopping) (%)	Monitoring reports	405	2025	0	40% (overtopping)	0	40%	Overtopping is addressed, which is responsible for roughly 40% of all dam failures.
	3.3 Number of citizens/residents directly benefiting from Early Warnings	Maps and existing census	0	2025	150K	330K	0	480K	Maps and number of residents.
Output 4 Integration of dam integrity, dam monitoring & surveillance, reservoir	4.1 National Water Information System is improved to comprehensively monitor dam safety through integration of metadata related to: 1. Dam integrity 2. Monitoring & dam surveillance	National water information system	0	2025	25%	25%	0	50%	Database is updated with data from up to 50% of dams in Kazakhstan.

EXPECTED OUTPUTS	OUTPUT INDICATORS ⁵	DATA SOURCE	BASELINE		TARGETS (by frequency of data collection)				DATA COLLECTION METHODS & RISKS
			Value	Year	Year 1	Year 2	Year 3	FINAL	
<i>operation to the national water information system</i>	<i>3. Reservoir operation (% of dams integrated into the system)</i>								
	4.2 <i>Number of users of the water-information system for informed decision-making (Ministries, dam managers, consulting engineers, Universities)</i>	<i>Registrations for the National water information system</i>	0	2025	60	90	0	150	<i>Number of experts registered to get access to the system.</i>

United Nations Development Programme

Project Document

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: *[Note: monitoring and evaluation plans should be adapted to project context, as needed]*

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, 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 log with mitigation measures, and any evaluation or review reports prepared over the period.	Annually, and at the end of the project (final report)			

Monitoring Activity	Purpose	Frequency	Expected Action	Partners (if joint)	Cost (if any)
Project Review (Project Board)	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.	Annually	Any quality concerns or slower than expected progress should be discussed by the project board and management actions agreed to address the issues identified.		

United Nations Development Programme

Project Document

VII. MULTI-YEAR WORK PLAN⁶⁷

All anticipated programmatic and operational costs to support the project, including development effectiveness and implementation support arrangements, need to be identified, estimated and fully costed in the project budget under the relevant output(s). This includes activities that directly support the project, such as communication, human resources, procurement, finance, audit, policy advisory, quality assurance, reporting, management, etc. All services which are directly related to the project need to be disclosed transparently in the project document.

EXPECTED OUTPUTS	PLANNED ACTIVITIES	Planned Budget by Year			RESPONSIBLE PARTY	PLANNED BUDGET		
		Y1	Y2	Y3		Funding Source	Budget Description	Amount
Output 1: Development of the national dam flood and safety management concept <i>Gender marker: GEM1</i>	1.1 Define of best practice for the three pillars dam integrity, monitoring, operation. Integration of ICOLD standards	1,000.00	1,400.00	-	To be decided during inception phase	Govern ment of Japan	71200- International Consultants	2,400.00
		1,000.00	2,000.00	-	To be decided during inception phase	Govern ment of Japan	71300- Local Consultants	3,000.00
	1.2 Develop annual dam safety reports template as mandatory instrument for safety review.	1,000.00	1,400.00	-	To be decided during inception phase	Govern ment of Japan	71200- International Consultants	2,400.00
		1,000.00	2,000.00	-	To be decided during inception phase	Govern ment of Japan	71300- Local Consultants	3,000.00
	1.3 Devise the approach to identify the dam impact zone with affected people, settlements	3,000.00	3,400.00	-	To be decided during inception phase	Govern ment of Japan	71200- International Consultants	6,400.00

⁶ Cost definitions and classifications for programme and development effectiveness costs to be charged to the project are defined in the Executive Board decision DP/2010/32

⁷ Changes to a project budget affecting the scope (outputs), completion date, or total estimated project costs require a formal budget revision that must be signed by the project board. In other cases, the UNDP programme manager alone may sign the revision provided the other signatories have no objection. This procedure may be applied for example when the purpose of the revision is only to re-phase activities among years.

EXPECTED OUTPUTS	PLANNED ACTIVITIES	Planned Budget by Year			RESPONSIBLE PARTY	PLANNED BUDGET		
		Y1	Y2	Y3		Funding Source	Budget Description	Amount
		1,000.00	2,000.00	-	To be decided during inception phase	Government of Japan	71300- Local Consultants	3,000.00
	1.4 Define the content of a comprehensive dam safety review and its time interval	4,000.00	-	-	To be decided during inception phase	Government of Japan	71200- International Consultants	4,000.00
		3,000.00	-	-	To be decided during inception phase	Government of Japan	71300- Local Consultants	3,000.00
	1.5 Draft the content of gender responsive Emergency Preparedness Plans (EPP) as integral part of the flood and safety management concept	2,000.00	2,000.00	-	To be decided during inception phase	Government of Japan	71200- International Consultants	4,000.00
		1,000.00	2,000.00	-	To be decided during inception phase	Government of Japan	71300- Local Consultants	3,000.00
	1.6 Review roles and responsibilities related to the supervision of flood management and adherence to dam safety regulation	-	4,000.00	-	To be decided during inception phase	Government of Japan	71200- International Consultants	4,000.00
		-	3,000.00	-	To be decided during inception phase	Government of Japan	71300- Local Consultants	3,000.00
	Sub-Total for Output 1	18,000.00	23,200.00	-				41,200.00
Output 2: Pilot the assessment of dams with the new flood and safety management concept	2.1 Perform the multi-functional dam assessment for the selected dams	16,000.00	23,100.00	900.00	To be decided during inception phase	Government of Japan	71200- International Consultants	40,000.00

EXPECTED OUTPUTS	PLANNED ACTIVITIES	Planned Budget by Year			RESPONSIBLE PARTY	PLANNED BUDGET		
		Y1	Y2	Y3		Funding Source	Budget Description	Amount
<i>Gender marker: GEM0</i>		8,000.00	11,550.00	450.00	To be decided during inception phase	Government of Japan	71300-Local Consultants	20,000.00
		45,320.00	65,430.75	2,549.25	To be decided during inception phase	Government of Japan	72100-Contractual Services-Companies	113,300.00
		1,800.00	2,598.75	101.25	To be decided during inception phase	Government of Japan	71600-Travel	4,500.00
	2.2 Identification of most urgent measures related to monitoring, automation and operation as a result of the multi-functional dam assessment.	960.00	1,440.00	-	To be decided during inception phase	Government of Japan	71200-International Consultants	2,400.00
		800.00	1,200.00	-	To be decided during inception phase	Government of Japan	71300-Local Consultants	2,000.00
		3,600.00	5,400.00	-	To be decided during inception phase	Government of Japan	72100-Contractual Services-Companies	9,000.00
		15,000.00	35,000.00		To be decided during inception phase	UNDP	72100-Contractual Services-Companies	50,000.00
	2.3 Cost estimation, planning, design	6,400.00	9,600.00	-	To be decided during inception phase	Government of Japan	71200-International Consultants	16,000.00

EXPECTED OUTPUTS	PLANNED ACTIVITIES	Planned Budget by Year			RESPONSIBLE PARTY	PLANNED BUDGET		
		Y1	Y2	Y3		Funding Source	Budget Description	Amount
		24,000.00	36,000.00	-	To be decided during inception phase	Government of Japan	71300-Local Consultants	60,000.00
		2,400.00	3,600.00	-	To be decided during inception phase	Government of Japan	72100-Contractual Services-Companies	6,000.00
	2.4 Implementation of a monitoring and dam surveillance system including hardware for early warning communication and automation at one dam	6,400.00	9,600.00	-	To be decided during inception phase	Government of Japan	71200-International Consultants	16,000.00
	- Piezometer wells - Monitoring (sensors) - Drilling, construction work - Control System (SCADA)	28,800.00	43,200.00	-	To be decided during inception phase	Government of Japan	71300-Local Consultants	72,000.00
		336,400.00	504,600.00	-	To be decided during inception phase	Government of Japan	72200-Equipment and Furniture	841,000.00
		40,000.00	60,000.00	-	To be decided during inception phase	Government of Japan	72100-Contractual Services-Companies	100,000.00
		2,629.20	3,943.80	-	To be decided during inception phase	Government of Japan	71600-Travel	6,573.00
	Sub-Total for Donor	523,509.20	781,263.30	4,000.50				1,308,773.00
	Sub-Total for UNDP	15,000.00	35,000.00	-				50,000.00
	Total for Output 2	538,509.20	816,263.30	4000.50				1,358,773.00

EXPECTED OUTPUTS	PLANNED ACTIVITIES	Planned Budget by Year			RESPONSIBLE PARTY	PLANNED BUDGET		
		Y1	Y2	Y3		Funding Source	Budget Description	Amount
Output 3: Implementation of a demonstration pilot for an Early Warning System (EWS) for a dam with potential for scaling up <i>Gender marker: GEMO</i>	3.1 Setting up the EWS environment at one dam/catchment	-	6,400.00	0	To be decided during inception phase	Government of Japan	71200-International Consultants	6,400.00
			8,000.00		To be decided during inception phase	Government of Japan	71300-Local Consultants	8,000.00
	3.2 Perform model calibration	-	24,000.00	-	To be decided during inception phase	Government of Japan	71200-International Consultants	24,000.00
			24,000.00		To be decided during inception phase	Government of Japan	71300-Local Consultants	24,000.00
	3.3 Implementation of an early warning system as a result of the multi-functional dam assessment	-	76,000.00	-	To be decided during inception phase	Government of Japan	71200-International Consultants	76,000.00
			48,000.00		To be decided during inception phase	Government of Japan	71300-Local Consultants	48,000.00
			2,000.00		To be decided during inception phase	Government of Japan	72100-Contractual Services-Companies	2,000.00
	Sub-Total for Output 3	-	188,400.00	-				188,400.00
Output 4: Integration of dam integrity, dam monitoring & surveillance, reservoir operation to the	4.1 Definition of metadata which best represent dam integrity, monitoring & surveillance and operation including the dam classification system of ICOLD	572.00	3,428.00	-	To be decided during inception phase	Government of Japan	71200-International Consultants	4,000.00

EXPECTED OUTPUTS	PLANNED ACTIVITIES	Planned Budget by Year			RESPONSIBLE PARTY	PLANNED BUDGET		
		Y1	Y2	Y3		Funding Source	Budget Description	Amount
national water information system <i>Gender marker: GEM0</i>		429.00	2,571.00	-	To be decided during inception phase	Government of Japan	71300-Local Consultants	3,000.00
		500.50	2,999.50	-	To be decided during inception phase	Government of Japan	72100-Contractual Services-Companies	3,500.00
	4.2 Enhancement of the water information system metadata	686.40	4,113.60	-	To be decided during inception phase	Government of Japan	71200-International Consultants	4,800.00
		4,290.00	25,710.00	-	To be decided during inception phase	Government of Japan	71300-Local Consultants	30,000.00
		71.50	428.50	-	To be decided during inception phase	Government of Japan	72100-Contractual Services-Companies	500.00
	4.3 Collection of dam metadata from the 405 existing reservoirs in Kazakhstan	-	8,000.00	-	To be decided during inception phase	Government of Japan	71200-International Consultants	8,000.00
		-	30,000.00	-	To be decided during inception phase	Government of Japan	71300-Local Consultants	30,000.00
		-	3,200.00	-	To be decided during inception phase	Government of Japan	72100-Contractual Services-Companies	3,200.00

EXPECTED OUTPUTS	PLANNED ACTIVITIES	Planned Budget by Year			RESPONSIBLE PARTY	PLANNED BUDGET		
		Y1	Y2	Y3		Funding Source	Budget Description	Amount
		-	3,200.00	-	To be decided during inception phase	Government of Japan	71600-Travel	3,200.00
	Sub-Total for Output 4	6,549.4	83,650.60	0				90,200.00
Project Management Costs	Salaries of permanent employees (Project manager (70%), AFA (30%))	26,467.57	31,735.70	5,268.13	UNDP	Government of Japan	71400-Contractual Services-Individual	63,471.40
	National Expert (NPSA-8)	24,699.74	29,616.00	4,916.26	To be decided during inception phase	Government of Japan	71400-Contractual Services-Individual	59,232
	Knowledge Management and Communication Specialist (UNV)	14,595.00	17,500.00	2,905.00	To be decided during inception phase	Government of Japan	71500-UNV	35,000
	Office rent	10,838.66	12,996.00	2,157.34	UNDP	Government of Japan	73100 - Rental & Maintenance-Premises	25,992
	Office equipment	5,000.00	-	-	UNDP	Government of Japan	72800-Information Technology Equipment	5,000
	Miscellaneous (Bank commission, etc.)	834.00	1,000.00	166.00	UNDP	Government of Japan	74500-Miscellaneous	2,000
	DES (Delivery Enabling Services)	3,761.34	4,510.01	748.66	UNDP	Government of Japan	74596-Direct project costs	9,020.01
		8,775.35	10,522.00	1,746.65	UNDP	Government of Japan	64397-Direct project costs	21,044
	Total project management costs	94,971.66	107,879.71	17,908.04				220,759.41

EXPECTED OUTPUTS	PLANNED ACTIVITIES	Planned Budget by Year			RESPONSIBLE PARTY	PLANNED BUDGET		
		Y1	Y2	Y3		Funding Source	Budget Description	Amount
Donor core total budget		643,030.26	1,184,393.61	21,908.54				1,849,332.41
GMS 8% (General management support)		51,442.42	94,751.49	1,752.68	UNDP	Govern ment of Japan	75100 - Facilities & Administration	147,946.59
DONOR TOTAL		694,472.68	1,279,145.10	23,661.22				1,997,279.00
UNDP TOTAL		15,000.00	35,000.00	-				50,000.00
PROJECT TOTAL BUDGET (Donor+UNDP)		709,472.68	1,314,145.10	23,661.22				2,047,279.00

*1% RCO Levy will not be applied due to the humanitarian nature of the project.

VIII. GOVERNANCE AND MANAGEMENT ARRANGEMENTS

The Project will be managed and implemented by UNDP Kazakhstan within the UNDP Direct Implementation Modality (DIM). The Energy and Environment Unit will provide oversight, quality assurance, technical guidance, and project management services as well as ensure communication with the donor. The Management and Programme Support (MPSU) and Operations Units will provide administrative and financial support to the project implementation.

Project management will be carried out by UNDP Country Office (CO) staff. A National Expert will be hired to provide technical guidance and implementation support. A Project Assistant from the MPSU will be assigned to provide administrative support services to the project implementation. The Project will be implemented in line with UNDP project management policies and UNDP financial rules and regulations. All materials and publications produced under the Project will fully adhere to the Communication and Visibility Strategy of UNDP and the donor.

A Project Board will be established to provide guidance, supervision, and oversight for the project implementation and to ensure adequate engagement with the donor. The Project Board will be the main governing mechanism led by UNDP CO. The Project Board meetings will hold annual meetings to discuss the progress, review and approve annual work plans, and review the risks that arise during the project implementation.

To relieve administrative burdens and mitigate risks, UNDP CO will consider the engagement of a partner in the role of the responsible party to provide goods and/or services to the Project, carry out project activities and/or produce outputs. This modality will also allow UNDP CO to take advantage of a responsible party's specialized skills in the subject field. The engagement will be made in line with UNDP rules and regulations. All relevant assessments and checks will be completed in line with the legal status of the partner.

Any organization that is legally constituted and duly registered may become a responsible party for a UNDP project. This includes government agencies, intergovernmental organizations, private firms, other UN agencies, or civil society organizations, including non-governmental organizations, advocacy groups, state-owned enterprises, and academia.

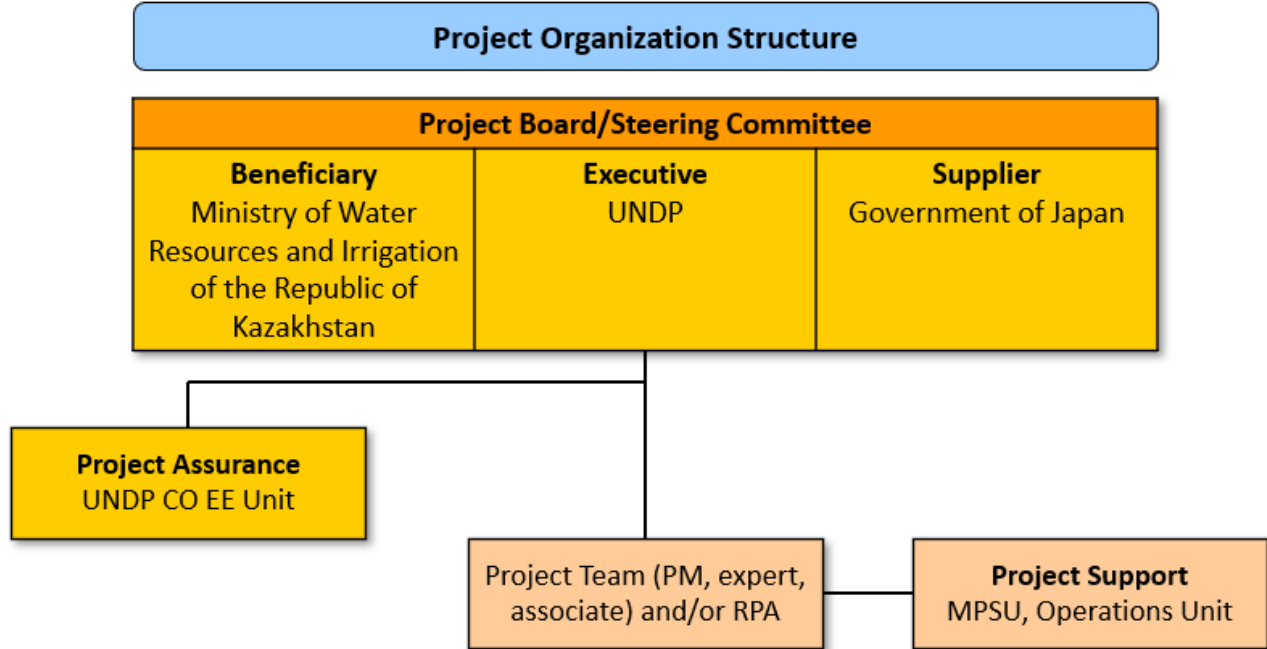
Spot check and audit: UNDP reserves the right to conduct a spot-check of the responsible party. According to UNDP rules, responsible parties are subject to a spot check. In addition, UNDP will carry out several mandatory procedures for assessing the capacity of a responsible party, including an independent micro-assessment aimed at determining the capacity of the financial management system in terms of accounting, procurement, reporting, and internal control so as to establish a Cash Transfer Modality to the responsible party, as well as identifying and determining the risk rating for proper implementation of the donor funds. UNDP shall solicit an independent, certified audit company to conduct the micro-assessment.

In accordance with UNDP policies and procedures, the responsible party shall be responsible for the project implementation. National regulations, rules, and procedures shall apply to the project implementation to the extent that they do not contradict the UNDP financial regulations and rules. The responsible party shall be responsible for achieving the goals and key outputs and ensuring that key partners and beneficiaries are engaged in its implementation, contribute to the implementation of the necessary political reforms at the national and regional levels, and ensure synergy between the project implementation and relevant public policy measures, as well as sustainability and continuity of the project outcomes.

As an implementing partner, UNDP will be responsible to⁸:

- Develop, and appraise a detailed Annual Work Plan, risk log, and the monitoring, gender mainstreaming and communication plans;
- Responsible for delivering donor's project cycle management services comprising project approval and start-up, project supervision and oversight, and project completion and evaluation;
- Ensure that the donor's resources are being used for the purpose intended.
- Address project issues as raised by the responsible party;
- Provide guidance and agree on possible countermeasures/management actions to address specific risks;
- Review and approve final project report, make recommendations for follow-on actions;
- Provide ad-hoc direction and advice for exception situations;
- Assure that all Project deliverables have been produced satisfactorily;
- Review and approve the Final Project Report and Exit Strategy, including lessons learned.

The Project organization structure is as follows:



⁸ Subject to change during full proposal development stage

IX. LEGAL CONTEXT

This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of the Republic of Kazakhstan and UNDP, signed on 4 October 1994. All references in the SBAA to “Executing Agency” shall be deemed to refer to “Implementing Partner.”

This project will be implemented by UNDP (“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.

X. RISK MANAGEMENT

1. UNDP as the Implementing Partner will comply with the policies, procedures and practices of the United Nations Security Management System (UNSMS.)
2. UNDP as the Implementing Partner will undertake all reasonable efforts to ensure that none of the [project funds]⁹ [UNDP funds received pursuant to the Project Document]¹⁰ are used to provide support to individuals or entities associated with terrorism, that the recipients of any amounts provided by UNDP hereunder do not appear on the United Nations Security Council Consolidated Sanctions List, and that no UNDP funds received pursuant to the Project Document are used for money laundering activities. The United Nations Security Council Consolidated Sanctions List can be accessed via <https://www.un.org/securitycouncil/content/un-sc-consolidated-list>. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.
3. 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>).
4. UNDP as the Implementing Partner will: (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.
5. In the implementation of the activities under this Project Document, UNDP as the Implementing Partner will handle any sexual exploitation and abuse (“SEA”) and sexual harassment (“SH”) allegations in accordance with its regulations, rules, policies and procedures.

⁹ To be used where UNDP is the Implementing Partner

¹⁰ To be used where the UN, a UN fund/programme or a specialized agency is the Implementing Partner

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.

7. UNDP as the Implementing Partner will ensure that the following obligations are binding on each responsible party, subcontractor, and sub-recipient:

- a. Consistent with the Article III of the SBAA *[or the Supplemental Provisions to the Project Document]*, the responsibility for the safety and security of each responsible party, subcontractor and sub-recipient and its personnel and property, and of UNDP's property in such responsible party's, subcontractor's and sub-recipient's custody, rests with such responsible party, subcontractor and sub-recipient. To this end, each responsible party, subcontractor and sub-recipient shall:
 - i. 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;
 - ii. assume all risks and liabilities related to such responsible party's, subcontractor's and sub-recipient's security, and the full implementation of the security plan.
- b. 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 responsible party's, subcontractor's and sub-recipient's obligations under this Project Document.
- c. Each responsible party, subcontractor and sub-recipient (each a "sub-party" and together "sub-parties") acknowledges and agrees that UNDP will not tolerate sexual harassment and sexual exploitation and abuse of anyone by the sub-parties, and other entities involved in Project implementation, either as contractors or subcontractors and their personnel, and any individuals performing services for them under the Project Document.
 - (a) In the implementation of the activities under this Project Document, each sub-party shall comply with the standards of conduct set forth in the Secretary General's Bulletin ST/SGB/2003/13 of 9 October 2003, concerning "Special measures for protection from sexual exploitation and sexual abuse" ("SEA").
 - (b) Moreover, and without limitation to the application of other regulations, rules, policies and procedures bearing upon the performance of the activities under this Project Document, in the implementation of activities, each sub-party, shall not engage in any form of sexual harassment ("SH"). SH is defined as any unwelcome conduct of a sexual nature that might reasonably be expected or be perceived to cause offense or humiliation, when such conduct interferes with work, is made a condition of employment or creates an intimidating, hostile or offensive work environment. SH may occur in the workplace or in connection with work. While typically involving a pattern of conduct, SH may take the form of a single incident. In assessing the reasonableness of expectations or perceptions, the perspective of the person who is the target of the conduct shall be considered.
- d. In the performance of the activities under this Project Document, each sub-party shall (with respect to its own activities), and shall require from its sub-parties (with respect to their activities) that they, have minimum standards and procedures in place, or a plan to develop and/or improve such standards and procedures in order to be able to take effective preventive and investigative action. These should include: policies on sexual

harassment and sexual exploitation and abuse; policies on whistleblowing/protection against retaliation; and complaints, disciplinary and investigative mechanisms. In line with this, sub-parties will and will require that their respective sub-parties will take all appropriate measures to:

- (i) Prevent its employees, agents or any other persons engaged to perform any services under this Project Document, from engaging in SH or SEA;
 - (ii) Offer employees and associated personnel training on prevention and response to SH and SEA, where sub-parties have not put in place its own training regarding the prevention of SH and SEA, sub-parties may use the training material available at UNDP;
 - (iii) Report and monitor allegations of SH and SEA of which any of the sub-parties have been informed or have otherwise become aware, and status thereof;
 - (iv) Refer victims/survivors of SH and SEA to safe and confidential victim assistance; and
 - (v) Promptly and confidentially record and investigate any allegations credible enough to warrant an investigation of SH or SEA. Each sub-party shall advise UNDP of any such allegations received and investigations being conducted by itself or any of its sub-parties with respect to their activities under the Project Document, and shall keep UNDP informed during the investigation by it or any of such sub-parties, to the extent that such notification (i) does not jeopardize the conduct of the investigation, including but not limited to the safety or security of persons, and/or (ii) is not in contravention of any laws applicable to it. Following the investigation, the relevant sub-party shall advise UNDP of any actions taken by it or any of the other entities further to the investigation.
- e. Each sub-party shall establish that it has complied with the foregoing, to the satisfaction of UNDP, when requested by UNDP or any party acting on its behalf to provide such confirmation. Failure of the relevant sub-party to comply of the foregoing, as determined by UNDP, shall be considered grounds for suspension or termination of the Project.
 - f. Each responsible party, subcontractor and sub-recipient will ensure that any project activities undertaken by them will be implemented in a manner consistent with the UNDP Social and Environmental Standards and shall ensure that any incidents or issues of non-compliance shall be reported to UNDP in accordance with UNDP Social and Environmental Standards.
 - g. Each responsible party, subcontractor and sub-recipient will take appropriate steps to prevent misuse of funds, fraud, corruption or other financial irregularities, by its officials, consultants, subcontractors and sub-recipients in implementing the project or programme or using the UNDP funds. It will ensure that its financial management, anti-corruption, anti-fraud and anti money laundering and countering the financing of terrorism policies are in place and enforced for all funding received from or through UNDP.
 - h. The requirements of the following documents, then in force at the time of signature of the Project Document, apply to each responsible party, subcontractor and sub-recipient: (a) UNDP Policy on Fraud and other Corrupt Practices (b) UNDP Anti-Money Laundering and Countering the Financing of Terrorism Policy; and (c) UNDP Office of Audit and Investigations Investigation Guidelines. Each responsible party, subcontractor and sub-recipient agrees to the requirements of the above documents, which are an integral part of this Project Document and are available online at www.undp.org.
 - i. In the event that an investigation is required, UNDP will conduct investigations relating to any aspect of UNDP programmes and projects. Each responsible party, subcontractor and sub-recipient will provide its full cooperation, including making available personnel, relevant documentation, and granting access to its (and its

consultants', subcontractors' and sub-recipients') premises, for such purposes at reasonable times and on reasonable conditions as may be required for the purpose of an investigation. Should there be a limitation in meeting this obligation, UNDP shall consult with it to find a solution.

- j. Each responsible party, subcontractor and sub-recipient will promptly inform UNDP as the Implementing Partner in case of any incidence of inappropriate use of funds, or credible allegation of fraud, corruption other financial irregularities with due confidentiality.

Where it becomes aware that a UNDP project or activity, in whole or in part, is the focus of investigation for alleged fraud/corruption, each responsible party, subcontractor and sub-recipient will inform the UNDP Resident Representative/Head of Office, who will promptly inform UNDP's Office of Audit and Investigations (OAI). It will provide regular updates to the head of UNDP in the country and OAI of the status of, and actions relating to, such investigation.

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

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

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

- l. Each contract issued by the responsible party, subcontractor or sub-recipient in connection with this Project Document shall include a provision representing that no fees, gratuities, rebates, gifts, commissions or other payments, other than those shown in the proposal, have been given, received, or promised in connection with the selection process or in contract execution, and that the recipient of funds from it shall cooperate with any and all investigations and post-payment audits.
- m. Should UNDP refer to the relevant national authorities for appropriate legal action any alleged wrongdoing relating to the project or programme, the Government will ensure that the relevant national authorities shall actively investigate the same and take appropriate legal action against all individuals found to have participated in the wrongdoing, recover and return any recovered funds to UNDP.
- n. Each responsible party, subcontractor and sub-recipient shall ensure that all of its obligations set forth under this section entitled "Risk Management" are passed on to its subcontractors and sub-recipients and that all

the clauses under this section entitled “Risk Management Standard Clauses” are adequately reflected, *mutatis mutandis*, in all its sub-contracts or sub-agreements entered into further to this Project Document.

Special Clauses. In case of government cost-sharing through the project, the following clauses should be included:

1. The schedule of payments and UNDP bank account details.
2. 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 reduced, suspended or terminated by UNDP.
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 shall receive and administer the payment in accordance with the regulations, rules and directives of UNDP.
5. All financial accounts and statements shall be expressed in United States dollars.
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. The Government shall use its best endeavours to obtain the additional funds required.
7. If the payments referred above are not received in accordance with the payment schedule, or if the additional financing required in accordance with paragraph 6 above is not forthcoming from the Government or other sources, the assistance to be provided to the project under this Agreement may be reduced, suspended or terminated by UNDP.
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) 8% 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/or an executing entity/implementing partner.
9. 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.
 10. The contribution shall be subject exclusively to the internal and external auditing procedures provided for in the financial regulations, rules and directives of UNDP.”