



ADAPTATION FUND



## *Project Inception Report*

UNESCO-Adaptation Fund Project “Reducing Vulnerabilities of Populations in the Central Asia Region from Glacier Lake Outburst Floods (GLOFs) in a Changing Climate”

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*Submitted to the Adaptation Fund Secretariat*



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## *Introduction*

Central Asia is facing important challenges to coping with the adverse effects of climate change. In particular, the impacts of climate change on water-related disasters in the region have been recognised as a key threat. One of the most significant effects of global warming in Central Asia is glacial melting and the associated formation of glacial lakes. The current rate of glacier loss in the region is 0.2–1% per year in volume. Furthermore, a 2017 analysis found that the impact of future climate change on glaciers in Central Asia is expected to be substantial: scenarios indicate that with a global temperature increase of 1.5°C, glacier mass in the Tien Shan range could decrease by 31%, while a 2° temperature increase could result in losses of up to 66%.

Due to glacier melting and lake formation, there is an increased danger of **Glacier Lake Outburst Floods (GLOFs)**, which confound and exacerbate water-related threats to mountain communities, their settlements, and their livelihoods. GLOFs also threaten infrastructure located in river floodplains.

During the series of international seminars co-organized by UNESCO and the UN Regional Centre for Preventive Diplomacy in Central Asia (UNRCCA) on “The Impact of Glaciers Melting in Central Asia” in in 2013, 2014, 2016 and 2018, glacier-melting-induced hazards, including GLOFs, were specifically highlighted as a key threat to the socio-economic development and security of the region.

Participating Central Asian countries recognize that building resilience and reducing societal vulnerabilities to climate related disasters is a key requirement for sustainable development. The United Nations 2030 Agenda for Sustainable Development specifically pledges to reduce physical and economic losses caused from water-related disasters, with a focus on the most vulnerable communities, and furthermore highlights the need for improved education, awareness-raising, and capacity building in relation to climate change impacts and early warning (SDG targets 11.5, 13.1 and 13.3).

## *Project Objective*

The objective of the proposed project is to strengthen adaptation to climate change in Central Asia by reducing societal risks and vulnerabilities associated with GLOFs. This objective also addresses SDGs 11 and 13 of the 2030 Agenda, particularly targets 11.5 and 13.1 and 13.3.

The project objective will be achieved by assessing societal risks and vulnerabilities associated with GLOFs and then addressing these risks and vulnerabilities. The approach will strengthen the monitoring, analytical and response capacities of institutions and government officials responsible for DRR, emergencies and CCA through community and gender-sensitive ground-level training and awareness campaigns, and through the establishment of early warning systems (EWS), supported with the necessary state-of-the-art monitoring strategies. The emerging and increasing risk associated with GLOFs, together with appropriate response and adaptation strategies will be brought to the forefront of attention for decision makers and communities in all of the participating countries.

The overall approach of the project is to assess vulnerability through work with technical experts and communities and then address vulnerability through targeted systems and measures while building capacity for prevention activities. The logic of the project intervention is provided in Figure 2. It is the regional approach that will contribute to improved coping with climate change and its consequences through information and experience exchange with regard to best practices in CCA and DRR.

The project is directly aligned with four Adaptation Fund outcomes: Outcome 1 (Reduced exposure to climate change hazards and threats); Outcome 2 (Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses); Outcome 3 (Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level); and Outcome 4 (Improved policies and regulations that promote and enforce resilience).

### *Project Approach and Theory of Change*

This project will reduce climate change induced risks and vulnerabilities from GLOFs in Central Asia through coordinated risk identification and community-embedded adaptation measures. More broadly, the project will build societal awareness and thereby resilience to the threat of climate change, particularly water-related disasters. Adaptation measures, including EWS, are strongly promoted by the Sendai Framework for Disaster Risk Reduction 2015-2030, to which Central Asian countries are committed. According to the United Nations Office for Disaster Risk Reduction (UNISDR), the following are four key elements of EWS: I. risk knowledge; II. monitoring and warning service; III. dissemination and communication; and IV. response capability. In addition, the project will enhance risk knowledge and response capability with activities that map potential threats and implement low-cost adaptation measures to reduce community risk. Capacity strengthening, highlighted in the 2030 Agenda under SDG 13 Target 13.1, will also be addressed in all project components through training, institutional twinning, participatory planning, and knowledge exchange. Finally, the project will support explicit measures to promote sustainability: the identification of post-project and expanded financing for EWS in vulnerable communities, and the dissemination of GLOF information and good practice in risk reduction in GLOF areas.

A core strength of this project is its focus on a **regional approach** to adaptation activities. This is crucial, as GLOFs represent far-reaching climate hazards that may originate in remote regions and cause damage in areas that are hundreds of kilometres downstream, possibly located in the territory of another country. Far-reaching GLOF disasters with transboundary impacts have already occurred in Central Asia; for example, the 1998 outburst event at the Archa-Bashy glacier in Kyrgyzstan caused the deaths of more than 100 residents of Shahimardan in neighboring Uzbekistan. The regional approach also takes advantage of the fact that the countries have similar government structures and share a common administrative and research past. Furthermore, a regional approach will allow the countries to utilize additional research capacity, such as the Central Asian Regional Glaciological Center under the auspices

of UNESCO, based in Almaty and policy capacity, such as the Regional Center for Emergency Situations and DRR.

Therefore, this project emphasizes the development of common monitoring, assessment, and response strategies, while also recognizing that final implementation must be tailored to local physical, cultural and societal contexts. The project will facilitate several regional exchange workshops, enabling experiences and knowledge to be shared and transferred between partners, while the implementation of four distinct pilot demonstration projects will provide a basis for comparative evaluation, identifying successes and lessons learnt between countries. Such capacity building and development at multiple levels will ensure that the countries are well equipped and motivated to maintain long-term, sustainable adaptation strategies implemented under this project.

The project Theory of Change is provided as Annex 7.

### *Implementation Arrangements and Budget*

The project is implemented by the UNESCO Cluster Office in Almaty in collaboration with the Governments of Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan and in partnership with the University of Zurich, Switzerland, as well as the participation of local, national and regional institutions and authorities. Project management roles and responsibilities are as follows:

**Project Steering Committee (PSC).** The PSC will be established and will provide strategic guidance for the implementation of the project. The PSC will be chaired by UNESCO and will include one senior government official from each country, UNESCO representatives, a representative of the main international implementing partners. The PSC will oversee project execution and will act as the main policy guidance body for the project.

**The Project Management Unit (PMU).** The PMU has been formed, and it is based in UNESCO Almaty Office. The PMU has the following tasks:

- co-ordinating institutional arrangements for management of the activities in the participating countries, the information sharing committee and the steering committee;
- co-ordinating policy and legislative development regarding GLOF;
- development of the KM and communication strategy;
- conducting and overseeing awareness and education activities;
- ensuring that possible partner agency programmes are fully integrated into the project framework;
- monitoring the results of the demonstration projects and supporting their integration into wider development programmes;
- monitoring technical assistance provided by the contracting agencies, including all institutional strengthening services provided to local communities and government bodies;
- conducting and monitoring all training activities;
- ensuring linkages to regional GLOF activities;
- reviewing annual work plans;

- developing the KM system.

An **Information and Experience Sharing Committee (IESC)** will be established as part of the project and will represent a hub for international cooperation within the project's context and beyond. It will have an inter-ministerial nature, formed by high level representatives of the various governmental agencies/ministries of the four countries involved in CCA and DRR. The IESC will be organized according to the following guidelines:

- The IESC will be convened on an as-needed basis (at least once annually) to exchange information on project approaches and findings in the four participating countries and from other projects in other regions as relevant.
- As both governments and CSOs will participate, the IESC will also be used to identify any situations in future projects where there may be potential overlap or duplication so that these situations can be resolved at a very early stage.
- The IESC will be kept informed on activities and outputs in all components of the projects with a view to their completeness and viability in current operating conditions.
- The IESC members will be nominated by the Project Board and the Project Manager.
- The UNESCO Almaty cluster office will function as the Secretariat of the IESC.
- Participation in the IESC will not be remunerated by the project and is considered an in-kind contribution by government agencies and other organizations.
- Participation in the IESC does not carry any expectation of employment with the project or with UNESCO.

**National Execution Teams (NET)** will be established in each of the four project countries. The NET will be headed by a country coordinator and one to four national experts. Country coordinators, which have been selected on the basis of a competitive process according to their experience and qualifications, assist the Project Manager in coordinating project activities, and they also assist in securing regular engagement and coordination with regional and local organizations, institutions and authorities involved in project implementation in their respective countries. The country coordinators have played a key role in the national inception workshops.

### *Budget*

The budget for the project has not changed since the final submission of the funding proposal to the AF in June 2020. The budget breakdown by component is as follows:

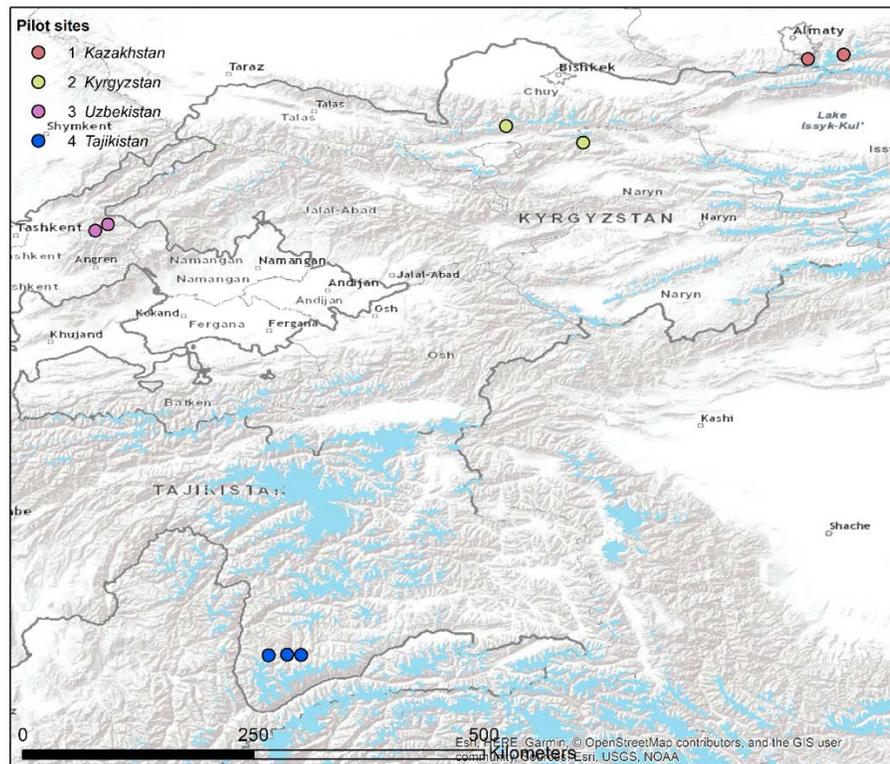
Project/Programme Components	Expected Outcomes	Expected Outputs	Countries	Amount (US\$)
1. Strengthening national and regional capacity to	Authorities in participating countries have	Appropriate mapping and	Kazakhstan, Kyrgyzstan,	820,000

Project/Programme Components	Expected Outcomes	Expected Outputs	Countries	Amount (US\$)
monitor and assess GLOF hazards	improved knowledge of potential GLOF hazards and a coordinated national and regional approach to mapping and monitoring potential GLOF sites.	<p>monitoring strategies developed</p> <p>Up-to-date atlas on glacier lakes for all participating countries based on remote sensing data developed and maintained.</p> <p>Organizational capacity to implement and oversee mapping and monitoring strengthened, with an emphasis on transboundary hazards</p>	Tajikistan, Uzbekistan	
2. Strengthening sub-national, national, and regional policies and approaches to meet needs of vulnerable communities	Decision-makers and vulnerable households are aware of GLOF threats and have the necessary information to plan measures to adapt to those threats.	<p>Vulnerability assessment and exposure maps developed for endangered communities, including gender and sector-specific analyses.</p> <p>Local knowledge on GLOF risks and related adaptation needs documented and local risk reduction plans drafted for selected communities vulnerable to GLOFs.</p> <p>DRR and CCA concepts mainstreamed into sub-national development planning in the</p>	Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan	1,364,800

Project/Programme Components	Expected Outcomes	Expected Outputs	Countries	Amount (US\$)
		relevant country context		
3. Design and launch of EWS and risk reduction measures tailored to local contexts	A coordinated EWS network is designed and embedded in the institutional setting for disaster risk management at all levels.	Local to regional framework for EWS established and evaluated.  Design and implementation plans for four site-specific EWS completed.	Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan	1,070,000
4. Targeted demonstration projects to introduce EWS technology and low-cost adaptation measures in vulnerable communities.	Risk from GLOF hazards reduced in pilot communities and relevant agencies have the means to maintain adaptation measures and upscale them to other vulnerable communities.	EWS tested in selected vulnerable communities.  Complementary adaptation measures implemented.  Authorities and population trained through simulation exercises and other means as needed.  Maintenance and financing strategy developed for ensuring long-term sustainability of the EWS and complementary adaptation activities and the expansion of adaptation activities to other vulnerable communities.	Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan,	1,763,444
5. Knowledge exchange, stakeholder engagement, and communication.	Researchers, government authorities and communities have improved access to, and	Web-based knowledge-platform established on GLOF risks and adaptation strategies.	Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan	910,000

Project/Programme Components	Expected Outcomes	Expected Outputs	Countries	Amount (US\$)
	use, information on GLOF hazards and risk reduction measures to adapt to them.	Education and training programmes undertaken to equip stakeholders with knowledge and capacity to prepare for, respond to and recover from GLOF disasters.  Knowledge and lessons learned from the targeted demonstration projects disseminated within Central Asia and across other high mountain regions.		
6. Project/Programme Execution cost				90,275
7. Total Project/Programme Cost				6,018,519
8. Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable)				481,481
Country budget breakdown				
<b>Kazakhstan</b>	<b>Kyrgyzstan</b>	<b>Uzbekistan</b>	<b>Tajikistan</b>	
1,405,625	1,405,625	1,405,625	1,405,625	
<b>Amount of Financing Requested</b>				<b>6,500,000</b>

## Geographic Coverage and Locations



The target area of the project covers vulnerable communities across several mountain ranges in Central Asia. Following discussions with government stakeholders, an initial group of pilot communities was identified based on representativeness of mountainous communities at risk of GLOFs, magnitude of exposure to GLOF threats, and vulnerability (e.g. communities with limited resources in need of assistance). The target communities are home to more than 85,000 people representing a number of different nationalities.

In Kazakhstan, the pilot villages of Esik and Talgar are located in the Almaty region in the foothills of the Tien Shan mountains. In Kyrgyzstan, the pilot villages of Tosh-Bulak and Yurevka are located in the north central part of the country in the Ala-Too Range. In Tajikistan, the pilot villages are located in the district of Shugnon, which is located in the southwestern part of the Pamir Range, and all are directly threatened by two glacial lakes in the upper reaches of the Varshez glacial lake. In Uzbekistan, the pilot communities, Pskem and Tepar, are located in the Pskem mountain range of the West Tien Shan near the border with Kyrgyzstan. Two glacial lakes are located in the upper reaches of the Pskem River: Shavurkul Lake and Ikhnach Lake, which contain 5 million and 4 million cubic meters of water, respectively. Detailed community profiles are provided in Annex 4 of the project, and baseline community consultation information is provided in Annex 2. The pilot communities for the project were selected on the basis of an ongoing dialogue with the participating governments. For the initial pilots, the governments identified communities that were currently exposed to an immediate GLOF threat and had a relatively high level of vulnerability.

## *Major activities*

The only change in the description of activities since final FP submission in June 2020 is the deletion of Activity 4.1.4; it has been merged with Activity 4.2.4 to avoid duplication. Major activities by project output are as follows:

### Output 1.1: Appropriate mapping and monitoring strategies developed

1.1.1. Review and assessment of observed and projected changes in essential climate variables across Central Asia, providing context and basis for design of the lake monitoring programs, and establishing synergies with ongoing and future regional cryosphere initiatives (see Part II G).

1.1.2. Consultation with country authorities to develop a handbook and best-practice guidance documents, outlining a homogenous strategy for remote sensing and field-based monitoring of glacier lakes and surrounding periglacial terrain that uses common data sources and techniques. A citizen science component will be considered here.

1.1.3. User-friendly visualization and analytical toolbox for anticipating where new lakes and therefore threats will develop over the 21st century as glaciers retreat.

1.1.4. Monitoring strategies presented to governance structures at the national and regional level.

### Output 1.2: Up-to-date atlas on glacier lakes for each country based on remote sensing data, supported by in situ measurements, developed and maintained.

1.2.1. Glacier lakes mapped across Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan for the most recently available satellite imagery (2018 – 2019); e.g., freely available Landsat or Sentinel images.

1.2.2. Retrospective mapping of previous lake distribution and extents for defined periods, to establish change in GLOF threat over past decades and identify rapidly emerging problems.

1.2.3. Estimation of key lake parameters (e.g. area, volume, mean depth), supported and validated with available in situ measurements.

1.2.4. Integration of findings into a user-friendly database (see Component 5) where mapped information on glacial lakes will be maintained by and available to local authorities along with the vulnerability assessment findings and community mapping carried out in Component 2.

### Output 1.3: Organizational capacity to implement and oversee mapping and monitoring strengthened, with an emphasis on regional cooperation on transboundary hazards.

1.3.1. Training workshops with local authorities in each country to ensure understanding of mapping and monitoring strategies and to introduce adaptation response strategies.

1.3.2. Design and implementation of a capacity building and twinning program in national universities, ensuring next generation of young local scientists are equipped with fundamental knowledge regarding the cryosphere, glacier lakes and related hazards, as well as integrated DRM.

1.3.3. Regional workshops to facilitate exchange of knowledge and experience between countries, with a view to establishing a permanent ongoing exchange mechanism in the region.

Output 2.1: Vulnerability assessment and exposure maps developed for endangered communities, including gender and sector-specific analyses

2.1.1. Development of a common GLOF hazard and risk assessment procedure, elaborated for the physical, social and environmental context of each country.

2.1.2. Preliminary estimates of the likelihood of outburst established for every current and anticipated future glacial lake, and downstream flood-prone land areas identified.

2.1.3. Assessment of vulnerability and exposure of communities and infrastructure within flood-prone land areas based on proxy indicators (e.g. population density, urban land area etc.) At least four women-only focus groups will be convened in the assessment process

2.1.4. Identification of hotspots (based on the findings from 2.1.1. – 2.1.3.) and compilation of comprehensive local-scale GLOF hazard assessment and maps for both current and future scenarios.

Output 2.2: Local risk reduction plans drafted for selected communities vulnerable to GLOFs.

2.2.1. Ground-level mapping and assessment of infrastructure and assets located within flood-prone valleys.

2.2.2. Community-level studies of vulnerability through participatory surveys and interviews. Evaluation of the risk perception of men and women in local communities exposed to GLOF hazards, including the local knowledge of current hazards and past events, and how this is affecting their daily lives.

2.2.3. Elaborated basket of hard and soft adaptation options, emphasising no-regret adaptation options. Hard options include artificial lake lowering, armouring of the lake dam and channel area etc, whereas soft options typically aim to reduce exposure and vulnerability of the community. This includes several no-regret options that are part of, and support a fully operational EWS, such as institutional training and capacity building, evacuation and response planning, training drills and community awareness raising.

2.2.4. Community level feasibility study to evaluate local adaptation needs and expectations.

2.2.5. Development of Local Risk Reduction Plans and discussion of plans with participating communities on the basis of information gathered under activities 2.2.1 and 2.2.4.

Output 2.3: DRR and CCA concepts mainstreamed into local development planning in the relevant country context.

2.3.1. Compilation of good practice in mainstreaming DRR and CCA into sub-national development planning, particularly in mountainous regions, and a review of its applicability for men and women in participating countries.

2.3.2. Preparation of policy/planning roadmaps for integrating DRR and CCA concepts into local planning documents.

2.3.3 Technical support for mainstreaming in selected districts, including training for local-level authorities on DRR and CCA concepts and CCA content for trainings such as those provided by UNISDR.

Output 3.1: Local to regional framework of institutional DRR context established and evaluated

3.1.1. Evaluation of the process, roles and responsibilities of institutions and organizations involved in EWS as mandated by law in all project countries. Synchronization of GLOF specific aspects with existing mechanisms, institutional entities and platforms for other types of hazards for creating an institutional infrastructure for multi-hazard management of disaster risks.

3.1.2. Establishment of required institutional mechanisms and framework conditions (if necessary).

3.1.3. Evaluation and establishment of responsibilities and protocols for the dissemination of warnings, including the evaluation of potential means for the communication of alerts and warnings to ensure all members of the population, both men and women, receive the message.

3.1.4. Evaluation of long-term funding possibilities of EWS, including maintenance costs.

Output 3.2: Design and implementation plans for four site-specific EWS completed

3.2.1. For each study site: Identification of the environmental parameters critical for GLOF hazards and evaluation of monitoring methods (sensors and specifications).

3.2.2. For each study site: Elaboration of a data storage and access system, pre-definition of warning thresholds.

3.2.3. For each study site: Elaboration of institutional integration of EWS protocols with existing authorities and institutional entities

3.2.4. For each study site: Identification and design of complimentary adaptation measures to reduce GLOF hazard and exposure (see basket of adaptation options – Output 2.2). A focus will also be given to green adaptation options, such as tree plantation to stabilise slopes and reduce bank erosion.

3.2.5. Definition of community needs for GLOF early warning based on the documentation of local GLOF risk perception and adaptation needs. Who needs to be warned, why, when, and how.

3.2.6. Information and capacity building with involved authorities on EWS implementation, operation, and maintenance.

Output 4.1: EWS tested in selected vulnerable communities.

4.1.1. Identifying a company/institute, if possible local, to take over the technical engineering, including the acquisition of suitable equipment, the construction of the EWS stations, and the electronic and software engineering for the data transfer, processing and storage.

4.1.2. Detailed technical planning of the EWS: Identification of survey, monitoring, and communication stations; design of alerting and warning infrastructure and means of communication

4.1.3. Test phase of EWS (ca. 12 months) for system calibration and adjustment and familiarization by responsible authorities

#### Output 4.2: Complementary adaptation measures implemented

4.2.1. Identifying a local company to implement civil engineering, including the construction of spillways, slope stabilisation measures (including tree plantations), channel maintenance, flood protection and deflection structures.

4.2.2. Detailed technical planning of the engineering measures: Site identification; design specifications of the structural measures, environmental impact assessment, and other necessary permitting.

4.2.3. Elaboration of maintenance plans and technical handbooks to ensure long-term operability and sustainability of the adaptation measures.

4.2.4. Adoption of low-cost / no-cost measures such as hazard zone demarcation and identifying safe zones and evacuation routes in the four EWS communities and at least four additional communities.

#### Output 4.3: Authorities and local communities trained through simulation exercises and other means as needed.

4.3.1. Capacity building and information activities for EWS calibration and operation for the relevant authorities in conjunction with the EWS provider selected in Activity 4.1.1.

4.3.2. Simulations with authorities and potentially affected population (or portions thereof) based on the EWS and supporting measures (e.g. evacuation routes and safe zones).

#### Output 4.4: Maintenance and financing strategy developed for ensuring long-term sustainability of the EWS and the expansion of adaptation activities to other vulnerable communities

4.4.1. Elaboration of a maintenance plan in collaboration with the involved authorities

4.4.2. Evaluation of potential internal and external funding sources and financing schemes for ensuring long-term operation of the EWS and other complementary adaptation measures

4.4.3. Development of specific recommendations for scaling up low-cost / no-cost measures to other communities exposed to GLOF risks

4.4.4. Development of a funding plan for the transfer of ownership, funding, maintenance and operation of the EWS and other complementary adaptation measures

#### Output 5.1: Web-based knowledge-platform established on GLOF risks and adaptation strategies

5.1.1. Establishment/enhancement of modern, user-friendly, web-based knowledge platforms, where data, maps, information and guidance documents produced under components 1 to 3 and other project reports (workshops, meetings) will be available to stakeholders and authorities as a basis for awareness raising and adaptation planning.

5.1.2. Adoption of a common regional template for the platform, allowing each country to tailor a cost-effective set-up that best suits their local context and needs

5.1.3. Funding and technical strategy developed to ensure long-term maintenance of the knowledge platforms

Output 5.2: Education and training programmes undertaken to equip stakeholders with knowledge and capacity to prepare for, respond to and recover from GLOF disasters

5.2.1. Engagement with national universities in each of the participating countries to ensure knowledge and understanding emerging from this programme is transferred to the next generation of young scientists working in Central Asia, in a form of networking, capacity building and new educational programmes (see also Output 1.3).

5.2.2. Enhancement and fostering of regional collaboration through cost-effective joint training and education programmes (see also Output 1.3).

5.2.3. Implementation of community level training based on common agreed standards and best practices, elaborated according to local experiences and contexts. (see also Output 4.2)

Output 5.3: Knowledge and lessons learned from the targeted demonstration projects disseminated within Central Asia and across other high mountain regions

5.3.1. Scaling-up experiences and lessons learnt for other EWS implementations in CA.

5.3.2. Exchange workshops with authorities from other than CA regions, and communication of outcomes and experiences to relevant institutions across high mountains in Asia, such as ICIMOD, Himalayan University network, DRR Youth network in ASPAC region, STAG and others

5.3.3. Knowledge products (mobile aps, radio spots, infographics, outreach and training material) for communities at risk and to visitors to these communities, adapted to specific audiences ranging from tourists to schoolteachers and their pupils.

5.3.4. Support extended to organization of scientific conferences in the region.

5.3.5. Education on DRR and CCA promoted at the local level for schools in GLOF-prone regions in the form of educational materials.

## Project Inception Overview

The project inception process began with the signing of the contract between the UNESCO Almaty Cluster Office (ACO) and the Adaptation Fund Board (AFB). The following sections describe the steps taken to date, the inception workshops, next steps, and future challenges.

This inception report covers the regional inception workshop, which was held on 29 April, and the two national inception workshops (Kazakhstan and Uzbekistan) that fell within the 30-day window for inception reporting. Information on the two remaining national inception workshops (Kyrgyzstan and Tajikistan), which will be held in June, will be archived and included in the first PPG. All workshops feature English-Russian simultaneous translation.

The total number of participants in the three above-mentioned workshops is **261**, 107 of which are women participants. The distribution of participants is as follows:

- Regional inception workshop: 111 participants, including 44 women;
- Kazakhstan national inception workshop: 69 participants, including 38 women;
- Uzbekistan national inception workshop: 81 participants, including 25 women.

No significant concerns were raised during the inception workshops regarding project design or implementation. The inception workshops brought together representatives of concerned government entities, including the Adaptation Fund designated national authorities for all participating countries, representatives of local governments and vulnerable communities from the Project's pilot sites, research institutes and academia, international organizations, NGOs and development partners working in environment/water/DRR/climate change-related fields. During the discussions, the participants stressed the importance of climate change issues for the countries of Central Asia and the need to strengthen the monitoring, analytical and response capacities of the entities responsible for DRR and climate change issues, with a particular focus on assessment and monitoring. The importance of developing a common methodology for the classification and assessment of GLOFs hazard, as well as the need for respective knowledge exchange, was emphasized. This would provide sound scientific basis for capacity building programmes and training, and for further exchange of experience and best practices throughout the region and beyond. All participating countries, as well as international and regional partners, highlighted the importance of the project and expressed their full support and commitment to cooperate in its implementation.

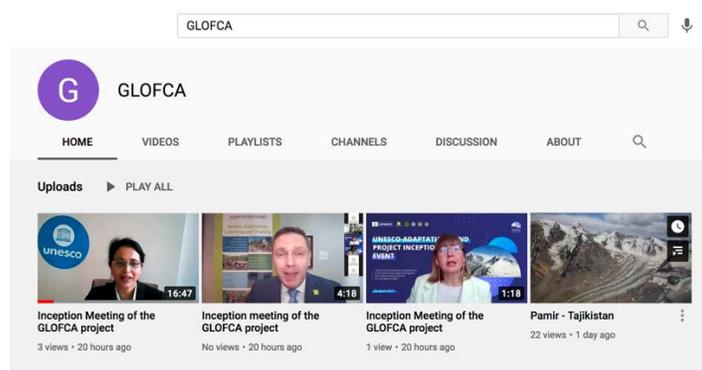
The major challenge during the project inception period has been ***the COVID-19 global pandemic and related travel restrictions***. The project team is addressing this challenge in several ways.

- Meetings with staff and stakeholders, including the regional inception workshops and national inception workshops, have been conducted on-line.
- Much of the hiring process has been conducted remotely.
- The workplan activities and sequencing for the implementing partner (in Switzerland) are designed to focus on short-term activities that can be accomplished remotely and then lead to

the key monitoring and capacity-building activities that are best done in person as soon as travel regulations allow for this.

- The internal kick-off workshop included a presentation and discussion on COVID-19-related health and safety issues for staff and consultants.
- The Project Manager is monitoring the pandemic situation, travel restrictions, and agency guidance in these areas.

The current situation regarding travel restrictions is expected to improve, but the project team will continue to use the communication, planning, and monitoring approaches developed during the inception phase for the foreseeable future to address this challenge.



*Figure 1: Project YouTube Channel with Presentations from On-Line Inception Workshop*

### *Actions to date*

The following table summarizes project-related actions to date.

<b>Activity</b>	<b>Date(s)</b>	<b>Outcome/Decisions</b>
Review and signing of agreement between the Adaptation Fund Board and UNESCO	January 14, 2021	Agreement signed.
Preparation and signing of an Implementation Partners Agreement (IPA) between UNESCO and the University of Zurich (UZH), which will serve as the project's Implementing Partner	June 2021	IPA is under finalization and is expected to be signed in June 2021.
Preparation of Project Implementation Plan for Year 1	June 2021	Year 1 implementation plan is to be finalized in June 2021, upon completion of the national inception workshops.

Project Steering Committee (PSC)	August 2021	The process of establishing the PSC is ongoing. The first meeting of the PSC is planned for August 2021.
Establishment of the Project Management Unit (PMU)	June 2021	The process of establishing the PMU is ongoing and will be completed in June 2021.
Recruitment of Project Staff	April-June 2021	Four national coordinators (Ms Zhuldyz Zhurumbetova (Kazakhstan), Ms Zuura Mamadalieva (Kyrgyzstan), Mr Bakhtibek Otambekzoda (Tajikistan), Mr Obidjon Kodirov (Uzbekistan)), one per each participating country, were hired to support the project inception and its further implementation. The national coordinators positions are gender balanced. The Project Officer and Project Finance and Administrative Assistant positions are under the recruitment at its final stage.
Regional Inception Workshop	April 29, 2021	Regional on-line inception workshop held with the involvement of key government stakeholders in all participating countries, other donors, and civil society.
Project communications activities launched	April-May 2021	Project website (glofca.org) registered and social media accounts (LinkedIn) established.
Project Team Kick-Off Meeting	May 2, 2021	Kick-Off Meeting for Project Staff, Consultants, Implementing Partner, including an overview of safeguards issues, including gender issues, and risk mitigation related to the COVID-19 global pandemic.
National Inception Workshops	May 25, 2021 May 28, 2021 <sup>1</sup>	National Kick-Off Workshops were held in Kazakhstan and Uzbekistan to provide an overview of the project, solicit feedback from a broad group of stakeholders, and to provide a briefing on current GLOF-related research in the specific countries.

<sup>1</sup> Additional workshops are planned for Kyrgyzstan and Tajikistan in June 2021.



Figure 2: The project website was launched in May 2021

### Monitoring, Evaluation, and Reporting

A review of the project results framework at project inception confirmed the initial indicators and targets set at the time of the final revised submission (June 2020). M&E milestones for the project are as follows:

Milestones	Expected Dates
Start of Project/Programme Implementation	April 29, 2021
First PPG Submitted <sup>2</sup>	April 29, 2022
Mid-term Review	Within six months of October 29, 2024
Project/Programme Closing	April 28, 2026
Terminal Evaluation	By October 28, 2026

### Next Steps

The most immediate next step is to conduct the two remaining inception workshops in Kyrgyzstan (15 June) and in Tajikistan (18 June). The project work plan for Year 1 is as follows:

<sup>2</sup> Subsequent PPGs will be submitted on an annual basis through 2026.

Project Activity	Timeframe for implementation			Description of activities
	2021			
	Q2	Q3	Q4	
1.1.1 Review/assess regional climate changes				A desk-based review and assessment of observed and projected changes in the cryosphere across Central Asia will be undertaken, in order to provide scientific context for lake monitoring strategy.
1.1.2 Handbook on remote sensing/monitoring of glacier lakes				Tailored national and regional best-practice guidance documents will be developed for lake mapping and monitoring, including user manuals for toolbox. Guidelines will be provided to incorporate existing regional experiences with lake mapping to ensure local practices and knowledge are incorporated into the guidance documents. A virtual and/or face-to-face workshop will be organized to exchange on regional experiences with lake mapping.
1.1.3 Visualization and toolbox indicating future glacier lakes in the region				A series of GIS-based tools will be developed to be used by local authorities to map and monitor lake changes. During capacity building activities (Output 1.3), training on the use of these tools will be provided to the national authorities.
1.1.4 Monitoring strategies for governments				A finalized guidance document to be presented to the national authorities at a regional exchange workshop.
1.2.1 Mapping current glacier lakes				Technical bilateral support will be provided to the national authorities in order to enable them to develop a comprehensive national lake atlas for each country.
1.2.2 Retrospective mapping of previous glacier lakes				Technical bilateral support will be provided to the national authorities in order to enable them to develop a comprehensive national lake atlas for each country.
1.2.3 Measurement of glacier lakes parameters, including in situ				A series of virtual workshops with national authorities will be organized to facilitate the technical bilateral support for the countries to enable them to develop comprehensive national lake atlases.
1.2.4 Glacier lakes measurements into database				Scientific design of a web database to contain all quality controlled data coming out of the mapping and monitoring work.
1.3.1 Training for local authorities				A series of training workshops/webinars will be launched for local authorities in each participating country to address specific local capacity needs, with a focus on lake mapping.
1.3.3 Regional workshops				A regional workshop will be organized to facilitate exchange of knowledge and experience between countries, with a view of establishing a permanent ongoing exchange mechanism in the region.
2.1.1 Common hazard assessment procedure				Development of a methodological framework for undertaking future GLOF hazard and risk assessment will be launched.
3.1.1 Analysis of GLOF institutions, jurisdiction				Stakeholder mapping will be undertaken to identify the institutional profiles for the different roles of involved national authorities in each participating country.

<b>Project Activity</b>	<b>Timeframe for implementation</b>			<b>Description of activities</b>
	2021			
	Q2	Q3	Q4	
5.1.1 Information platforms for project data, knowledge				An international consultant and a company will be hired to create and launch the Project knowledge management platform. In addition, a junior communications consultant will be hired to maintain the platform and support the Project's communication aspects.
5.1.2 Template for submitting info to platform				An architecture of the web-based knowledge management platform together with a common regional template will be developed.
5.1.3 Funding/maintenance strategy for platform				Funding/maintenance strategy for the web-based knowledge management platform will be developed.
5.2.1 Young scientists activities				Awareness-raising events and capacity-building activities to be organized for youth and young professionals.
5.3.3. Knowledge products for communities at risk				Knowledge products (infographics, outreach and training materials, etc.) to be developed for at risk communities and other target groups.





**“Reducing vulnerabilities of populations in the Central Asia region from glacier lake outburst floods in a changing climate” (GLOFCA)**

**UNESCO Adaptation Fund Project Regional Inception Meeting  
(Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan)**

**Thursday, 29<sup>th</sup> April 2021**  
***15:00 – 17:50 (GMT+6, Almaty time)***

Online event hosted via ZOOM platform  
Organized by the UNESCO office in Almaty

**Brief overview**

Central Asia faces important challenges to cope with the adverse effects of climate change. In particular, the impact of climate change on water-related disasters in the region has been recognized as a key threat. One of the most significant effects of global warming in Central Asia is glacial melting and the associated formation of glacial lakes. The current rate of decline in the volume of glaciers in the region is 0.2-1% per year.

Due to glacier melting and lake formation, there is an increased risk of Glacier Lake Outburst Floods (GLOFs), which confound and exacerbate water-related threats to mountain communities, their settlements, and livelihoods. GLOFs also threaten populations, livelihoods and infrastructure located in river floodplains and downstream areas.

The UNESCO Office in Almaty, together with the four countries of the Central Asian region – the Republic of Kazakhstan, the Kyrgyz Republic, the Republic of Tajikistan and the Republic of Uzbekistan – developed a project proposal for funding to the Adaptation Fund. The proposed GLOFCA project aims to strengthen adaptation to climate change in Central Asia by reducing the social risks and vulnerabilities associated with glacier melting related risks, notably the GLOFs. This objective addresses SDGs 11 and 13 of the 2030 Agenda, particularly targets 11.5, 13.1 and 13.3.





“Reducing vulnerabilities of populations in the Central Asia region from glacier lake outburst floods (GLOFs) in a changing climate”



The GLOFCA project aims to strengthen monitoring, analytical capacity, and the response capacity of institutions and government officials responsible for disaster risk reduction, emergency and climate change adaptation through community-based and gender-sensitive education and communication, and by establishing early warning systems supported by the necessary monitoring strategies.

The online event to be organized by the UNESCO Office in Almaty on 29 April 2021 will earmark the launch of the project at the regional level. Participating local, national and regional institutions, experts, partners and donors are invited to attend this event. Country-focused workshops will follow shortly after.

**Agenda**  
15:00 – 17:50 (GMT+6, Almaty time)

*Time: 15:00-17:50 (GMT+6, Almaty time)*

Time	Session
14.30-15.00	<p><i>Connection of participants, technical check</i></p> <p><b>Introduction:</b> Dr Kristine Tovmasyan, Programme Specialist, UNESCO Office in Almaty</p>
15:00-15:20 (20')	<p><b>Opening session</b></p> <p><b>Chair:</b> Ms Krista Pikkat, Director, UNESCO Office in Almaty</p>
	<p><b>Opening remarks (15 min)</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Dr Shamila Nair-Bedouelle</b>, Assistant Director-General for Natural Sciences, UNESCO HQ, Paris</li> <li><input type="checkbox"/> <b>Mr Mikko Ollikainen</b>, Adaptation Fund secretariat (video message)</li> </ul> <p><i>Group photo</i></p>
15:20-16:00 (40')	<p><b>Session 1: Country statements</b></p> <p><b>Chair:</b> Ms Krista Pikkat, Director, UNESCO Office in Almaty</p>
	<p><b>Statements by the Adaptation Fund designated national authorities (10 min each)</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Mr Akhmetzhan Primkulov</b>, Deputy Minister, Ministry of Ecology, Geology and Natural Resources, Republic of Kazakhstan</li> <li><input type="checkbox"/> <b>Mr Azamat Mambetov</b>, State Secretary, Ministry of Emergency Situations, Kyrgyz Republic</li> <li><input type="checkbox"/> <b>Mr Abdukodir Mavlodod</b>, Deputy Chairman, Committee for Environmental Protection under the Government of the Republic of Tajikistan</li> <li><input type="checkbox"/> <b>Mr Sherzod Habibullayev</b>, Director-General, Center of Hydrometeorological Service, Republic of Uzbekistan</li> </ul>
16:00-16:40 (40')	<p><b>Session 2: Climate change, glaciers melting and associated risks: from global to regional perspective</b></p> <p><b>Chair:</b> Dr Anil Mishra, Chief of Section, UNESCO Water Science Division, Paris</p>





“Reducing vulnerabilities of populations in the Central Asia region from glacier lake outburst floods (GLOFs) in a changing climate”



Time	Session
	<ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Global climate change impacts on glaciers and associated regional and local risks (20 min)</b> Mr Christian Huggel and Mr Holger Frey, University of Zurich, Switzerland</li> <li><input type="checkbox"/> <b>Overview of the GLOFCA Project (20 min)</b> Ms Natalya Kim, UNESCO Office in Almaty</li> </ul>
<b>16:40-17:40 (60')</b>	<b>Session 3: Synergies, cooperation with ongoing projects, discussion</b> <i>Chair: Dr Kristine Tovmasyan, Programme Specialist, UNESCO Office in Almaty</i>
	<ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Questions/comments by the country delegations</b></li> <li><input type="checkbox"/> <b>Interventions by project and development partners (5 min each)</b> <ul style="list-style-type: none"> <li>- Center for Emergency Situations and Disaster Risk Reduction (CESDRR)</li> <li>- Central-Asian Institute for Applied Geosciences (CAIAG)</li> <li>- United Nations Office for Disaster Risk Reduction (UNDRR)</li> <li>- World Bank</li> <li>- Regional Environmental Centre for Central Asia (CAREC)</li> <li>- Aga Khan Agency for Habitat (AKAH)</li> <li>- Central-Asian Disaster and Climate Resilience Youth Network (DACRYN)</li> </ul> </li> <li><input type="checkbox"/> <b>Discussion, Q/A</b> All participants</li> </ul>
<b>17:40-17:50 (10')</b>	<b>Closing remarks</b> <i>Ms Krista Pikkat, Director, UNESCO Office in Almaty UNESCO Office in Almaty</i>



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**“Reducing vulnerabilities of populations in the Central Asia region from glacier lake outburst floods (GLOFs) in a changing climate”**

**UNESCO-Adaptation Fund Project Regional Inception Meeting**  
(Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan)

**Monday, 3 May 2021**

14:00 – 17:00 (GMT+6, Almaty time)

Time	Internal Working-Level Session (closed)
14:00-17:00	<b>Chair:</b> Kristine Tovmasyan, Programme Specialist, UNESCO Office in Almaty
14.00-14.15	<b>Reflections on the Regional Inception event, held on 29<sup>th</sup> April</b> All participants – 15 min
14.15-14.40	<b>Introduction of the Project Staff and Presentation of the Work Plan for Year 1</b> (15 min) Natalya Kim, UNESCO Office in Almaty Discussion, Q/A – 10 min
14.40-15.05	<b>Presentation on the Implementing Partner Activities</b> (15 min) Simon Allen (TBC), University of Zurich Discussion, Q/A – 10 min
15.05-15.15	<b>Break – 10 min</b>
15.15-15.40	<b>Presentation on the Knowledge management platform</b> (15 min) Alfred Diebold, International consultant Discussion, Q/A – 10 min
15.40-16.05	<b>Presentation of Adaptation Fund Safeguards Policies and Practices: What Project Staff and Consultants Need to Know</b> (15 min) Ms Susan Legro, Independent Consultant, Climate Funds Discussion, Q/A – 10 min
16.05-16.25	<b>COVID-19 precautions and risk mitigation for the project</b> (10 min) Ms Susan Legro, Independent Consultant, Climate Funds Discussion, Q/A – 10 min
16.25-16.55	<b>Preparations for the national inception workshops</b> Country coordinators – 5 min each Discussion, Q/A – 10 min
16.55-17.00	<b>Wrap-up and closing</b>



“Reducing vulnerabilities of populations in the Central Asia region from glacier lake outburst floods in a changing climate” (GLOFCA)

UNESCO-Adaptation Fund Project National Workshop  
Kazakhstan

**Tuesday, 25 May 2021**

14:00 – 17:20 (GMT+6, Almaty time)

Online event hosted via ZOOM platform  
Organized by the UNESCO office in Almaty

Brief overview

Central Asia faces important challenges to cope with the adverse effects of climate change. In particular, the impact of climate change on water-related disasters in the region has been recognized as a key threat. One of the most significant effects of global warming in Central Asia is glacial melting and the associated formation of glacial lakes. The current rate of decline in the volume of glaciers in the region is 0.2-1% per year.

Due to glacier melting and lake formation, there is an increased risk of Glacier Lake Outburst Floods (GLOFs), which confound and exacerbate water-related threats to mountain communities, their settlements, and livelihoods. GLOFs also threaten populations, livelihoods and infrastructure located in river floodplains and downstream areas.

On 29<sup>th</sup> April 2021, the UNESCO Office in Almaty, in partnership with Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan, formally launched the new regional Project “Reducing vulnerabilities of populations in the Central Asia region from glacier lake outburst floods in a changing climate” (GLOFCA). The event was attended by relevant government ministries and agencies, specialized research institutions, regional partners and international organizations. High interest, continued support and commitment to cooperate in the framework of the project activities were expressed by the participating countries, as well as international partners during the regional launch event.

The proposed GLOFCA project aims at strengthening adaptation to climate change in Central Asia by reducing the social risks and vulnerabilities associated with glacier melting related risks, notably the GLOFs. This objective addresses SDGs 11 and 13 of the 2030 Agenda, particularly targets 11.5, 13.1 and 13.3. It also aims to strengthen monitoring, analytical capacity, and the response capacity of institutions and government officials responsible for disaster risk reduction, emergency and climate change adaptation through community-based and gender-sensitive education and communication, and by establishing early warning systems supported by the necessary monitoring strategies.

The online national workshop organized by the UNESCO Office in Almaty under the GLOFCA Project will take place on **25 May 2021**. The relevant local, national, and regional organizations, as well as experts and partners are invited to participate in the event.

Should you require additional information, please do not hesitate contacting the GLOFCA's national consultant coordinating the implementation of the Project in the Republic of Kazakhstan, Ms Zhuldyz Zhurumbetova at: [z.zhurumbetova@unesco.org](mailto:z.zhurumbetova@unesco.org); T: +7 701 766 88 44.

**Agenda**  
*14:00 – 17:20 (GMT+6, Almaty time)*

Time	Session
13:30-14.00	<i>Connection of participants, technical check</i>
14:00-14:20 (20')	<b>Opening session</b> <i>Chair: Dr Kristine Tovmasyan, UNESCO Office in Almaty</i>
	<ul style="list-style-type: none"> <li>• <b>Dr Kristine Tovmasyan</b>, Lead, Natural Sciences unit, UNESCO Office in Almaty</li> <li>• <b>Ms Shattyk Tastemirova</b>, Head, Climate Change Adaptation Office, Department of Climate Policy and Green Technologies, Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan</li> <li>• <b>Mr Altai Myrzabayev</b>, Deputy Head, Disaster Prevention Department, Ministry of Emergency Situations</li> <li>• <b>Mr Igor Severskiy</b>, Regional Glaciological Centre, IHP National Committee</li> </ul> <b>GROUP photo</b>
14:20-14:50 (30')	<b>Session 1: Climate change, glaciers melting and associated risks: from global to regional perspective</b> <i>Chair: Dr Kristine Tovmasyan Office in Almaty</i>
	<ul style="list-style-type: none"> <li>• <b>'Global climate change impacts on glaciers and associated regional and local risks' (15 min.)</b> <i>Mr Christian Huggel and Mr Holger Frey, University of Zurich, Switzerland</i></li> <li>• <b>Overview of the regional Project 'Reducing vulnerabilities of populations in the Central Asia region from glacier lake outburst floods in a changing climate (GLOFCA)' (15 min.)</b> <i>Ms Natalya Kim, UNESCO Office in Almaty</i></li> </ul>
14:50-15:40 (50')	<b>Session 2: Disaster risk management and GLOFs hazard assessment in Kazakhstan: overview of national experience</b> <i>Chair: GLOFCA national consultant for RK, Ms Zhuldyz Zhurumbetova</i>
	<ul style="list-style-type: none"> <li>• <b>'Monitoring and modeling the formation of glacial lakes and associated risks in Kazakhstan as an example of successful adaptation to climate change' (15 min.)</b> <i>Mr Vassiliy Kapitsa, Senior Researcher, Central Asian Regional Glaciological Center, Institute of Geography and Water Security</i></li> <li>• <b>'Monitoring and observations of GLOFs and measures taken by Kazselezashita to reduce the water level in the potentially destructive glacial lakes' (15 min.)</b> <i>Mr Murat Kassenov, Deputy Head, State Agency "Kazselezaschita"</i></li> <li>• <b>'Forecasting and warning of natural hazards' (15 min.)</b> <i>Mr Nurlan Abayev, Head, Research Center of SE "KazHydromet"</i></li> </ul>
15:40-15:50 (10')	<i>Break</i>

Time	Session
15:50-16:30 (40')	<b>Session 3: GLOFCA Project: Work plan and main activities of the Project</b> <i>Chair: GLOFCA national consultant for RK, Ms Zhuldyz Zhurumbetova</i>
	<ul style="list-style-type: none"> <li>• <b>Presentation of the draft Activity Plan for Year 1 under the GLOFCA (15 min.)</b>  <b>UNESCO/University of Zurich, Switzerland</b>  <i>Ms Natalya Kim, UNESCO Almaty Office, and Mr Simon Allen, University of Zurich</i>  <u>Questions and Answers (5 min.)</u> </li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Presentation on Knowledge Management Platform (15 min.)</b>  <i>Mr Alfred Diebold, International Consultant, UNESCO Almaty Office</i>  <u>Questions and Answers (5 min.)</u> </li> </ul>
16:30-17:10 (40')	<b>Session 4: Liaison and cooperation with partners; Discussion</b> <i>Chair: Dr Kristine Tovmasyan, UNESCO Office in Almaty</i>
	<ul style="list-style-type: none"> <li>• Mr Zhyrgalbek Ukashev, CESDRR;</li> <li>• Mr Marat Narbayev, EB IFAS in the Republic of Kazakhstan;</li> <li>• Representative of the local administration in Issyk;</li> <li>• Mr Vitaly Salnikov, Al-Farabi National University;</li> <li>• Centre for Sustainable Development (CSD);</li> <li>• Representatives of youth (DACRYN, CAY4W).</li> </ul> <ul style="list-style-type: none"> <li>• <b>Discussion, Q/A</b> <ul style="list-style-type: none"> <li>- Workshop participants express their proposals and expectations from the GLOFCA Project;</li> <li>- Discussion on the GLOFCA draft Activity Plan</li> </ul> </li> </ul> <p><i>All participants (5 min. each)</i></p>
17:10-17:20 (10')	<b>Wrap-up, closing remarks</b> <i>Dr Kristine Tovmasyan, UNESCO Office in Almaty</i>

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68	<i>Vladimir Mashnin</i>			
69	<i>Saltanat Sagymbekova</i>		<i>Kazconference</i>	



“Reducing vulnerabilities of populations in the Central Asia region from glacier lake outburst floods in a changing climate” (GLOFCA)

UNESCO-Adaptation Fund Project National Inception Meeting

Friday, 28 May 2021

14:00-17:10 (GMT+5, Tashkent time)

Online workshop in Zoom platform  
organized by the UNESCO office in Almaty

Brief overview

Central Asia faces important challenges to cope with the adverse effects of climate change. In particular, the impact of climate change on water-related disasters in the region has been recognized as a key threat. One of the most significant effects of global warming in Central Asia is glacial melting and the associated formation of glacial lakes. The current rate of decline in the volume of glaciers in the region is 0.2-1% per year.

Due to glacier melting and lake formation, there is an increased risk of **Glacier Lake Outburst Floods (GLOFs)**, which confound and exacerbate water-related threats to mountain communities, their settlements, and livelihoods. GLOFs also threaten populations, livelihoods and infrastructure located in river floodplains and downstream areas.

On 29 April 2021, the UNESCO Office in Almaty launched a new regional project “Reducing vulnerabilities of populations in the Central Asia region from glacier lake outburst floods in a changing climate” (GLOFCA). The project includes four countries of Central Asia: Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan. The event was attended by representatives of concerned ministries and governmental entities, respective research institutes, as well as regional partners and international organizations. During the regional launch of the Project, the participants expressed great interest in the Project and demonstrated their support and readiness for further cooperation within the Project’s implementation.

The GLOFCA project aims to strengthen adaptation to climate change in Central Asia by reducing the social risks and vulnerabilities associated with glacier melting related risks, notably the GLOFs. This objective addresses SDGs 11 and 13 of the 2030 Agenda, particularly targets 11.5, 13.1 and 13.3. The project also aims to strengthen monitoring, analytical capacity and the response capacity of institutions and government officials responsible for disaster risk reduction, emergency and climate change adaptation, through community-based and gender-sensitive education and communication, and by establishing early warning systems supported by the necessary monitoring strategies.

The GLOFCA project national inception workshop for the Republic of Uzbekistan will be organized online by the UNESCO Almaty Office on **28 May 2021**. Respective local, national and regional stakeholders, experts and partners will participate in this event.

For more information, please contact Mr Obidjon Kodirov, National Consultant for the GLOFCA project, coordinating the implementation of the GLOFCA project in the Republic of Uzbekistan (email: [o.kodirov@unesco.org](mailto:o.kodirov@unesco.org); tel: +998 90 932 87 33).

#### Agenda

14:00-17:10 (GMT+5, Tashkent time)

Time	Session
13.30-14.00	<i>Connection of participants, technical check</i>
14:00-14:30 (30')	<b>Opening session</b> <i>Chair: Dr Kristine Tovmasyan, UNESCO Office in Almaty</i>
	<p><b>Opening remarks (30')</b></p> <ul style="list-style-type: none"> <li>• <b>Ms Krista Pikkat</b>, Director, UNESCO Office in Almaty (5')</li> <li>• <b>Mr Umid Shadiev</b>, Ambassador, Permanent Delegate, Permanent Delegation of Uzbekistan to UNESCO (5')</li> <li>• <b>Mr Sherzod Khabibullaev</b>, Director-General, Centre of Hydrometeorological Service of the Republic of Uzbekistan (Uzhydromet) (5')</li> <li>• <b>Mr Elmurod Nadjimov</b>, Senior Expert, National Commission of the Republic of Uzbekistan for UNESCO (5')</li> <li>• <b>Mr Shukhrat Dadakhonov</b>, Head, Emergency Situations Prevention Department, Ministry of Emergency Situations of the Republic of Uzbekistan (5')</li> </ul> <p><i>Group photo</i></p>
14:30-15:00 (30')	<b>Session 1: Climate change, glaciers melting and associated risks: from global to regional perspective</b> <i>Chair: Mr Djamshid Mirkhalikov, Senior Expert, National Commission of the Republic of Uzbekistan for UNESCO</i>
	<ul style="list-style-type: none"> <li>• <b>Global climate change impacts on glaciers and associated risks (15')</b> <i>Mr Christian Huggel and Mr Holger Frey, University of Zurich, Switzerland</i></li> <li>• <b>Overview of the regional project "Reducing vulnerabilities of populations in the Central Asia region from glacier lake outburst floods in a changing climate" (GLOFCA) (15')</b> <i>Ms Natalia Kim, UNESCO Office in Almaty</i></li> </ul>
15:00-15:45 (45')	<b>Session 2: Disaster risk management and GLOFs hazard assessment in Uzbekistan: overview of the national experience</b> <i>Chair: Mr Obidjon Kodirov, National Consultant, UNESCO GLOFCA project in Uzbekistan</i>
	<ul style="list-style-type: none"> <li>• <b>Monitoring, forecasting and prevention of mudflow and avalanche hazards in the Republic of Uzbekistan (15')</b> <i>Ms Nadezhda Gavrilenko and Mr Davron Azimov, Uzhydromet</i></li> <li>• <b>Monitoring of glacier lakes and GLOFs risk management measures (15')</b> <i>Mr Shukhrat Dadakhonov, Ministry of Emergency Situations of the Republic of Uzbekistan</i></li> <li>• <b>Participation of the Centre on Glaciology in the GLOFCA project: background and perspectives (15')</b></li> </ul>

	<i>Mr Maksim Petrov, Institute of Geology and Geophysics named after Kh.M. Abdullaev</i>
15:45-15:50 (5')	<i>Break for 5 minutes</i>
15:50-16:30 (40')	<b>Session 3: GLOFCA project: workplan and main activities of the project</b> <i>Chair: Mr Obidjon Kodirov, National Consultant, UNESCO GLOFCA project in Uzbekistan</i>
	<ul style="list-style-type: none"> <li>• <b>Presentation of the GLOFCA Workplan for Year 1 (15')</b> <i>Mr Simon Allen, University of Zurich, Switzerland, and Ms Natalia Kim, UNESCO Office in Almaty</i> <i>Questions/answers (5')</i></li> <li>• <b>GLOFCA Project Knowledge Management Platform (15')</b> <i>Mr Alfred Diebold, GLOFCA Project International Consultant</i> <i>Questions/answers (5')</i></li> </ul>
16:30-17:00 (30')	<b>Session 4: Synergies and cooperation with partners; discussion</b> <i>Chair: Dr Kristine Tovmasyan, UNESCO Office in Almaty</i>
	<ul style="list-style-type: none"> <li>• <b>Interventions by partners on potential cooperation / synergies with their current and planned projects and programs (5 minutes each)</b></li> <li>• <b>Discussion, questions and answers</b> <ul style="list-style-type: none"> <li>- Workshop participants share their suggestions and expectations from the GLOFCA project;</li> <li>- Discussion of the workplan of the GLOFCA project.</li> </ul> </li> </ul> <p><i>All participants</i></p>
17:00-17:10 (10')	<b>Closing remarks</b> <i>Chair: Dr Kristine Tovmasyan, UNESCO Office in Almaty</i>

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“Reducing vulnerabilities of populations in the Central Asia region from glacier lake outburst floods in a changing climate” (GLOFCA)

UNESCO-Adaptation Fund Project 1<sup>st</sup> National Technical Workshop  
(Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan)

**Tuesday, 15 June 2021**  
14:00 – 17:30 (GMT+6, Bishkek time)

Online event hosted via ZOOM platform  
Organized by the UNESCO office in Almaty

Brief overview

Central Asia faces important challenges to cope with the adverse effects of climate change. In particular, the impact of climate change on water-related disasters in the region has been recognized as a key threat. One of the most significant effects of global warming in Central Asia is glacial melting and the associated formation of glacial lakes. The current rate of decline in the volume of glaciers in the region is 0.2-1% per year.

Due to glacier melting and lake formation, there is an increased risk of Glacier Lake Outburst Floods (GLOFs), which confound and exacerbate water-related threats to mountain communities, their settlements, and livelihoods. GLOFs also threaten populations, livelihoods and infrastructure located in river floodplains and downstream areas.

On 29<sup>th</sup> April 2021, the UNESCO Office in Almaty has officially launched the regional Project “*Reducing vulnerabilities of populations in the Central Asia region from glacier lake outburst floods in a changing climate*” (GLOFCA), funded by the Adaptation Fund with the participation of the four country members - the Republic of Kazakhstan, the Kyrgyz Republic, the Republic of Tajikistan and the Republic of Uzbekistan, as well relevant government ministries and agencies, research institutions, regional partners and international organizations.

The GLOFCA project aims at strengthening adaptation to climate change in Central Asia by reducing the social risks and vulnerabilities associated with glacier melting related risks, notably the GLOFs. This objective addresses SDGs 11 and 13 of the 2030 Agenda, particularly targets 11.5, 13.1 and 13.3. It also aims to strengthen monitoring, analytical capacity, and the response capacity of institutions and government officials responsible for disaster risk reduction, emergency and climate change adaptation through community-based and gender-sensitive education and communication, and by establishing early warning systems supported by the necessary monitoring strategies.

The online national workshop will take place **on 15 June 2021**. The participation of the relevant ministries, research institutions, academia is planned in achieving effective results of the national technical workshop in the framework of GLOFCA project.

The workshop is aimed at promoting national dialogue and discussion of existing approaches to the assessment and risk management activities undertaken by relevant state institutions to prevent natural hazards, especially GLOFs, as well as adaptation measures under climate change. It is expected that the workshop will formulate proposals and recommendations on specific activities within the framework of GLOFCA Project work plan for Year 1 of its implementation.

Should you require additional information, please do not hesitate contacting the GLOFCA's national consultant coordinating the implementation of the Project in the Kyrgyz Republic, Ms. Zuura Mamadalieva at: [z.mamadalieva@unesco.org](mailto:z.mamadalieva@unesco.org); T: +996550971137.

*Preliminary agenda*  
*14:00 – 17:30 (GMT+6, Bishkek time)*

Time	Session
13.30-14.00	<i>Connection of participants, technical check</i>
14:00-14:20 (20')	<b>Opening session</b> <i>Chair: Dr Kristine Tovmasyan, Programme Specialist, UNESCO Office in Almaty</i>
	<b>Opening remarks (20 min)</b> <ul style="list-style-type: none"> <li>• <i>Ms Krista Pikkat, Director, UNESCO Office in Almaty (TBC)</i></li> <li>• <i>AF national designated authority (TBC)</i></li> <li>• <i>Ministry of Emergency Situations of the Kyrgyz Republic (TBC)</i></li> </ul>
14:20-14:50 (30')	<b>Session 1: Climate change, glaciers melting and associated risks (TBC)</b> <i>Chair: Dr Kristine Tovmasyan, Programme Specialist, UNESCO Office in Almaty</i>
	Presentations by <ul style="list-style-type: none"> <li>• <b>Global climate change impacts on glaciers and associated risks (TBC) (15')</b> Mr Simon Allen, University of Zurich, Switzerland</li> <li>• <b>Overview of the GLOFCA Project (15')</b> Ms Natalya Kim, UNESCO Office in Almaty</li> </ul>
14:50-15:40 (50')	<b>Session 2: Disaster risk management and GLOFs hazard assessment in the Kyrgyz Republic</b> <i>Chair: Ms Zuura Mamadalieva, consultant/national coordinator, GLOFCA project</i>
	Presentations by <ul style="list-style-type: none"> <li>• <b>Institute of Water Problems and Hydroenergy of the National Academy of Sciences of the Kyrgyz Republic (15')</b></li> <li>• <b>Agency on Hydrometeorology under MES KR (15')</b></li> <li>• <b>Central-Asian Institute for Applied Geosciences (15')</b></li> </ul>
15:40-15:50	<b>Break – 10 min</b>
15:50-16:20 (30')	<b>Session 3: Activity Plan for Year 1 of the GLOFCA Project</b> <i>Chair: Ms Zuura Mamadalieva, consultant/national coordinator, GLOFCA project</i>
	<ul style="list-style-type: none"> <li>• <b>Presentation of the draft Activity Plan for Year 1 (15')</b> Ms Natalya Kim, UNESCO Office in Almaty, and Mr Simon Allen, University of Zurich</li> <li>• <b>Presentation of the GLOFCA Knowledge Management Platform (15 min)</b> Mr Alfred Diebold, International Consultant</li> </ul>
16:20-17:20 (60')	<b>Session 4: Proposals and discussion of the draft Activity Plan of the GLOFCA</b>

Time	Session
	<i>Chair: Dr Kristine Tovmasyan, Programme Specialist, UNESCO Office in Almaty</i>
	<p><b>Discussions, Q&amp;A</b></p> <ul style="list-style-type: none"> <li>- UNDRR, UNICEF (TBC)</li> <li>- World Bank (TBC)</li> </ul> <p><b>All participants</b></p>
<b>17:20-17:30 (10')</b>	<p><b>Closing remarks</b></p> <p><i>Dr Kristine Tovmasyan, Programme Specialist, UNESCO Office in Almaty</i></p>



## “Reducing vulnerabilities of populations in the Central Asia region from glacier lake outburst floods in a changing climate” (GLOFCA)

UNESCO-Adaptation Fund Project Regional Inception Meeting  
(Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan)

**Friday, 18 June 2021**

*14:00 – 17:30 (GMT+5, Dushanbe time)*

Venue: National Library of Tajikistan  
Connect via Zoom platform for online connection

### Brief overview

Central Asia faces important challenges to cope with the adverse effects of climate change. In particular, the impact of climate change on water-related disasters in the region has been recognized as a key threat. One of the most significant effects of global warming in Central Asia is glacial melting and the associated formation of glacial lakes. The current rate of decline in the volume of glaciers in the region is 0.2-1% per year.

Due to glacier melting and lake formation, there is an increased risk of **Glacier Lake Outburst Floods (GLOFs)**, which confound and exacerbate water-related threats to mountain communities, their settlements, and livelihoods. GLOFs also threaten populations, livelihoods and infrastructure located in river floodplains and downstream areas.

On 29<sup>th</sup> April 2021, the UNESCO Office in Almaty has formally launched the regional Project “*Reducing vulnerabilities of populations in the Central Asia region from glacier lake outburst floods in a changing climate*” (GLOFCA), funded by the Adaptation Fund with the participation of the four country members - the Republic of Kazakhstan, the Kyrgyz Republic, the Republic of Tajikistan and the Republic of Uzbekistan, as well relevant government ministries and agencies, specialized research institutions, regional partners and international organizations. High interest, continued support and willingness to cooperate in the framework of the project were expressed by the participating countries, as well as international partners during the regional launch event.

The proposed GLOFCA project aims at strengthening adaptation to climate change in Central Asia by reducing the social risks and vulnerabilities associated with glacier melting related risks, notably the GLOFs. This objective addresses SDGs 11 and 13 of the 2030 Agenda, particularly targets 11.5, 13.1 and 13.3. It also aims to strengthen monitoring, analytical capacity, and the response capacity of institutions and government officials responsible for disaster risk reduction, emergency and climate change adaptation through community-based and gender-sensitive education and communication, and by establishing early warning systems supported by the necessary monitoring strategies.

The online national workshop organized by the UNESCO Office in Almaty will take place on **18 June 2021**. We consider the participation of the relevant ministries, local authorities, research and specialized water institutions as well as academia as an integral part in achieving effective results of the technical national workshop in the framework of GLOFCA project and look forward to your active participation in the discussions.

If you need more information, please contact Mr. Bakhtibek Otambekzoda, National Consultant for the GLOFCA project, coordinating the implementation of the project in the Republic of Tajikistan (email: o.bakhtibeki@unesco.org; tel.: +992 93 587 80 80).

***Preliminary agenda***  
*14:00-17:30 (GMT+5, Dushanbe time)*

Time	Session
13.30-14.00 (30')	<i>Connection of participants, technical check</i>
14:00-14:20 (20')	<b>Opening session</b> <i>Chair: Dr Kristine Tovmasyan, UNESCO Office in Almaty</i>
	<b>Opening remarks</b> <ul style="list-style-type: none"> <li>• <i>Ms Krista Pikkat, Director, UNESCO Office in Almaty</i></li> <li>• <i>Committee for Environmental Protection under the Government of the Republic of Tajikistan (speaker TBC)</i></li> <li>• <i>Committee of Emergency Situations and Civil Defence of Tajikistan (speaker TBC)</i></li> </ul> <i>Group photo</i>
14:20-14:50 (30')	<b>Session 1: Climate change, glaciers melting and associated risks: from global to regional perspective</b> <i>Chair: Dr Kristine Tovmasyan, UNESCO Office in Almaty</i>
	<ul style="list-style-type: none"> <li>• <b>Global climate change impacts on glaciers and associated regional and local risks (15')</b> <i>Mr Cristian Huggel and Mr Holger Frey, University of Zurich, Switzerland</i></li> <li>• <b>Overview of the GLOFCA Project (15')</b> <i>Ms Natalya Kim, UNESCO Office in Almaty</i></li> </ul>
14:50-15:40 (50')	<b>Session 2: Disaster risk management and GLOFs hazard assessment in Tajikistan</b> <i>Chair: Mr Bakhtibeki Otambekzoda, GLOFCA Project National Coordinator for Tajikistan</i>
	<ul style="list-style-type: none"> <li>• <i>Agency on Hydrometeorology of the Republic of Tajikistan (15') (speaker TBC)</i></li> <li>• <i>State Scientific Institution "Center for the Glaciers Study under the Academy of Sciences of the Republic of Tajikistan" (15') (speaker TBC)</i></li> <li>• <i>Aga Khan Agency for Habitat (15') (speaker TBC)</i></li> </ul>
15:40-15:50 (10')	<b>Break for 10 minutes</b>
15:50-16:30 (40')	<b>Session 3: Overview of the GLOFCA work plan and project activities for Year 1</b> <i>Chair: Mr Bakhtibeki Otambekzoda, GLOFCA Project National Coordinator for Tajikistan</i>
	<ul style="list-style-type: none"> <li>- <b>GLOFCA Workplan for the Year 1 (15')</b> <i>Mr Simon Allen, University of Zurich, and Ms Natalya Kim, UNESCO Almaty Office</i></li> <li><b>Q/A (5')</b></li> <li>- <b>Knowledge Management Platform (15')</b> <i>Mr Alfred Diebold, International consultant, UNESCO Almaty Office</i></li> </ul>

Time	Session
	<i>Q/A (5')</i>
16:30-17:20 (50')	<b>Session 3: Overview of the GLOFCA work plan and project activities for Year 1</b> <i>Chair: Mr Bakhtibeki Otambekzoda, GLOFCA Project National Coordinator for Tajikistan</i>
	<ul style="list-style-type: none"> <li>- <b>Questions/comments</b></li> <li>- <b>Interventions by project and development partners (5 min each)</b></li> <li>- <b>Discussion, Q/A</b></li> </ul> <i>All participants</i>
17:20-17:30 (10')	<b>Closing remarks</b> <i>Dr Kristine Tovmasyan, UNESCO Office in Almaty</i>

*Annex 7: Theory of Change*

