Scaling-up of Glacial Lake Outburst Flood (GLOF) Risk Reduction in Northern Pakistan (GLOF II PROJECT PAKISTAN)

Project context

Due to rising temperatures, glaciers in Pakistan's northern mountain ranges (Hindu Kush Himalayas and Karakorum) are melting rapidly. Over 3,000 glacial lakes have developed in Gilgit-Baltistan and Khyber Pakhtunkhwa regions, of which 33 glacial lakes have been assessed as prone to glacial lake outburst flooding (GLOF) – which are sudden outburst events releasing millions of cubic meters of water from glacial lakes, leading to destruction downstream, loss of lives, property and livelihoods. An estimated 7.1 million people in GB and KP are vulnerable. The Scaling-up of GLOF risk reduction in Northern Pakistan (GLOF-II) project is a continuation of the four-year 'Reducing Risks and Vulnerabilities from GLOF in Northern

QUICK FACTS

Duration: 2017 – January 2024

Implementing partners: Ministry of Climate Change

Funding partner: Green Climate Fund, UNDP, Government of Gilgit-Baltistan (GB)

Implementation areas: Khyber Pakhtunkhwa (KP), Gilgit-Baltistan (GB)

Total budget: US$36,900,000 (GCF); US$ 500,000 (GoGB)

Contact: Misbah Zafar- NPM
Email: Misbah.zafar@undp.org

Pakistan's (GLOF-I)' project, helped vulnerable communities in two districts to prepare for and mitigate GLOF risks through early warning systems, enhanced infrastructure, and community-based disaster risk management.

Objectives

The project builds on activities implemented during the pilot phase and aims to further empower communities to identify and manage risks associated with GLOFs and related impacts of climate change, strengthen public services to lower the risk of disasters, and improve community preparedness and disaster response capacities. The project will also support the development of sustainable options for livelihoods in project areas, with a special focus on the participation of women in ensuring food security and livelihoods.

Key Activities

- Provincial line and planning departments have technical capacities to mainstream climate change into development plans
- Sub-national institutions coordinate effectively to implement adaptation action plans and climate change initiatives
- Expanded weather surveillance and discharge measuring networks
- Early warnings are effective in protecting communities from climate-induced risks.
- Vulnerable communities have adequate long-term measures in place to address GLOF-related risks
- Improved financial capacity to adapt to GLOFs and other climate change-induced risks

Key Stakeholders

The project aims to build institutional capacities of government institutions at federal and provincial levels including the Pakistan MET department and provincial line departments such as Disaster Management Authorities, Forest departments, Agriculture Department, Planning and Development Department, Pakistan Metrological Department, Environmental Protection Agencies, and Rural Support Programs, and environmental protection agencies. Furthermore, project interventions will target population groups in

GB and KP. Communities most vulnerable to the impacts of climate change will be engaged. The maximum participation of women will be ensured in all project activities.

Expected results

The project has expanded interventions in 18 districts, directly benefiting communities in 24 valleys in Pakistan. Expected results by the end of the project are:

- At least three policies adopted by the government to address or incorporate GLOF risk reduction.
- In target communities, 100 percent of households (696,342 total beneficiaries; 348,171 men and 348,171 women) will be able to receive and respond to early warnings and take appropriate action.
- At least 250 small-scale engineering structures will be established to reduce the effects of GLOF events on livelihoods, such as tree plantation, controlled drainage, and mini dams.
- 50 weather monitoring stations to collect meteorological data in catchment areas; 408 river discharge sensors to collect river flow data to inform hydrological modelling and help develop village hazard watch groups.
- To reduce flood risks due to deforestation and inefficient water use, 240 water-efficient farming technologies (irrigation schemes) and 700 ha area will be brought back to productive use and protection through bioengineering measures.

Main Achievements

Upon receipt of funds from GCF in Apr 2018, the project became operational in July 2018. The project is currently under full implementation. Below is a summary of progress to date:

- Project Inception Workshop conducted in July 2018, involving over 100 representatives from national and local Governments to discuss and agree on project implementation strategy and management arrangements, intended project outputs and results, baselines, indicators and targets.

Stakeholder needs assessments at national and provincial levels have been completed.

Technical assessments including Knowledge, Aptitude and Practices (KAP) Studies have been doneat the district level

Assessment of the potential socio-economic impact of GLOFs, and development of socio-economic profiles completed for 05 valleys.

Feasibility studies for design, and layout for installation of 24 EWS, repair and rehabilitation of irrigation systems; construction of small-scale infrastructure is completed.

GIS Mapping of potential hazard locations (GLOF lakes) and selection of project sites/ interventions has been done for 07 valleys of GB and 05 valleys of KP.

Work on updating of glacier inventory of Pakistan is ongoing and will be completed in 2022.

Baseline Assessment study to review and update baselines, indicators and targets in the project's results framework reflecting the current scenario on theground, has been completed.

Sensitization, consensus building, mobilization and awareness raising of stakeholders, communities and the general public on GLOF and climate change risks conducted with Government officials in KP and GB including:

- community awareness sessions on GLOF risks and project interventions, community mobilization sessions, CBDRMCs training and awareness sessions.
- stakeholder workshops and consultation meetings to sensitize stakeholders regarding the project objectives and to align project activities with ongoing government interventions.
- community mobilization in valleys of KP and GB valleys for enhanced understanding of GLOF risks and project interventions.
- Mock drills conducted in all project valleys in 2020, 2021 and 2022.

03 documentation of indigenous best practices (Glacier Grafting) for GLOF risk reduction and

climate change adaptation was carried out in GB in 2020, 2021 and 2022.

Disaster Mitigation and adaptation equipment handed over to provincial and district emergency response authorities in KP and GB.

Community-Based Disaster Risk Management Committees (CBDRMCs) in 24 valleys were formed and Community Hazard Watch Groupsstrengthened through the provision of equipment and training sessions in both KP and GB.

Strengthened CC Cell at the sub-national level to coordinate effectively to implement the CCA action plan and CCA initiatives.

Project website (www.glof2.pk) was launched in Aug 2020 and the baseline video documentary was launched in Dec 2020.

Under advocacy and awareness, the TEDx salon event was organized in 2021.

Media campaigns launched on international mountain day, and international day for disaster resilience, celebrated every year at national and local levels.

World Environment Day celebrated in 2021:

01 Cycling event organized with MoCC and MoFA; Support provided for Signing ceremony of Performance Bonds, 04 Video Messages, 03 Radio shows done in provinces).

GLOF-II Project Social Media Channels launched:

- Twitter: [https://twitter.com/Glof2Pakistan,](https://twitter.com/Glof2Pakistan)
- YouTube:[https://www.youtube.com/channel/UCfYuS4TQfSV m69mL4lVzdsw;](https://www.youtube.com/channel/UCfYuS4TQfSV)
- Instagram:[https://www.instagram.com/glof2pakistan/;](https://www.instagram.com/glof2pakistan/)
- Facebook:https://www.facebook.com/GLOF2Pakistan)

Multiple videos and documentaries launched on indigenous practices and project interventions.

publications in UNDP Exposure- articles in newspapers and stories in Development Advocate Magazine in 2021.

Environmental and Social Management Framework finalized – to ensure compliance with applicable

safeguards policies of UNDP, GCF and the Government of Pakistan.

Support provided to sports festivals (Ice hockey championship at Altit Sports festival, Hindukush Snow Sports Festival) for increased outreach.

Gender Strategy and Action Plan completed in 2020.

Procurement for Early Warning Systems (EWS) discharge gauges and sensors, etc.) for 24 target valleys completed in 2021, with complete equipment delivered in Pakistan in 2022.

16 training of over 150 officials from District Disaster Management Authorities, and other relevant stakeholders on roles and responsibilities, and implementation of EW strategies at the district and local level have been completed and the training manual designed by GLOF-II Project.

04 stakeholder exposure visits were conducted for SAPM,NPD, RR UNDP and NPM for monitoring of projectactivities.

IEC material is being developed for outreach and advocacy.

Journalist training for improved reporting onclimate change and disasters.

Preparations for celebrations of relevant days (Panel discussion, Photography/videography competition, etc.)

What's next?

Year 2022, project has to deliver maximum against its targets for the following outcomes:

Hazard, Vulnerability Risk Assessments (HVRA) in target valleys.

Knowledge, Aptitude and Practice (KAP) Study of 24 targeted valleys in KP & GB.

GIS Mapping of Hazard community (Contractual services-companies for GIS mapping of potential hazard locations (GLOF lakes) and selection of project sites/ interventions.

Review of Integrated National and Provincial Climate Change Adaptation Plan (CCAAP) with National Climate Change Policy

- Establishment of Integrated GIS-based MIS (Digital Platform) at the National and Provincial Levels.
- Community mobilization sessions in 24 valleys of KP & GB for enhanced understanding of GLOF risks and project interventions.
- Develop every year Inter-agency multi-level SOPs/Plans for GLOF/Disaster risk reduction (PMD, NDMA/PDMA/DDMA) i.e. Contingency Planning and Disaster Risk Reduction Planning.
- Construction, repair, and reconstruction of small-scale infrastructure to reduce medium- and long-term risks of floods (gabion walls, check dams, spillways).
- Slope stabilization activities throughbioengineering structures and plantation.
- Construction, repair and reconstruction of irrigation channels.
- Construction/reconstruction of Community-Based Disaster Risk Management Centers (CBDRMC) in 24 valleys to better respond to GLOFs and CC-induced risks/disasters.
- Animated videos, short documentaries, web series are underway to highlight the project interventions.
- GLOF-II website revamping to update all project updates on a regular basis.
- Stakeholders' exposure visits to target valleys.

Where we work: KP & GB