

Background and Scope

Nepal is ranked as one of the most vulnerable countries in the world to natural disasters and is exposed to different natural hazards such as flood, landslides, Glacial Lake Outburst Floods (GLOFs), thunderstorms, cold waves, droughts, earthquakes, etc.



Photo by Mr. Sharad Joshi, ICIMOD

The country is also highly vulnerable to the negative impacts of climate change leading to consistent rising trends in annual mean temperature, extreme rainfall events, increasing frequency and intensity of floods, growing threats from GLOFs, drought events etc. GLOF events are considered as natural geomorphic hazards and have been recorded 14 times in the Nepalese Himalayas, most

recently in 2004. Tsho Rolpa in Dolakha district is the first glacial lake in Nepal where the glacial lake lowering measures have been implemented for the first time by the Department of Hydrology and Meteorology (DHM). The DHM thus has the experience of GLOF risk reduction at Tsho Rolpa.

Located in Solukhumbu district at an altitude of about 5010 meters above the sea level, Imja Lake is among the 6 glacial lakes identified in the National Adaptation Programme of Action (NAPA) categorized as the most 'critical'.

The size of glacial lakes in Nepal is increasing and Imja Lake is considered as one of the rapidly growing lakes in the Hindu Kush Himalayan region. The area exposed to Imja GLOF risk is one of the most important tourist destinations of Nepal. In the Terai and Churia regions, flood is a recurrent problem. Rivers originating from Churia Range are mostly of ephemeral nature, being devastating during the monsoon season and therefore posing high flood threats to Terai. Increasing trends of extreme weather conditions due to climate change impact have further led to flash floods and landslide events. Community interactions and consultations undertaken in Udaypur, Siraha, Saptari and Mahottari districts have confirmed extreme hardships faced by the people during floods, particularly women and children.



The Project at a Glance

Community Based Flood and Glacial Lake Outburst Risk Reduction Project (CFGORRP) is a joint undertaking of the Government of Nepal (GoN), Global Environment Facility (GEF) and the United Nations Development Programme (UNDP). The project is being implemented by the Department of Hydrology and Meteorology (DHM) under the Ministry of Science, Technology and Environment (MoSTE). The project has been developed in line with the Least Developed Countries Framework (LDCF) guidelines and addresses the objectives outlined in NAPA Profiles 3 and 4.

Objective:

The main objective of the CFGORRP is to reduce human and material losses from GLOF in Solukhumbu district and catastrophic flooding events in the Terai and Churia Range.

Outcomes:

The project has two outcomes. The first project Outcome, also called Component I focuses on actions required to reduce risks from imminent GLOF in high risk areas. The Component I contributes to NAPA Profile 4.



Likewise, the second project outcome (Component II) addresses the actions needed to address community-based disaster risk reduction and the climate-proofing of water sources for disaster-prone communities' priorities. The second component contributes to the NAPA Profile 3.

Outputs:

There are a total eight outputs, four each under Component I and II. The first component has the following outputs:

- ❖ **Output 1.1.** Water level of Imja Lake lowered through controlled drainage;
- ❖ **Output 1.2.** Protocols for GLOF risk monitoring and maintenance of artificial drainage system of Imja Lake developed and implemented;
- ❖ **Output 1.3.** Community-based GLOF Early Warning System developed and implemented;
- ❖ **Output 1.4.** GLOF Risk Management Skills and Knowledge Institutionalized at Local and National Levels;

The second component has the following four outputs:

- ❖ **Output 2.1:** Sediment control and stabilization of hazard-prone slopes & river banks through structural and non-structural mechanisms;
- ❖ **Output 2.2:** Flood-proofing of Water and Sanitation Systems in the selected VDCs in the target river basins;
- ❖ **Output 2.3:** Institutionalization of flood risk management skills and knowledge;
- ❖ **Output 2.4:** Flood preparedness training for district and VDC representatives, NGOs, CBOs and local communities in the 4-flood-prone districts;

Project Implementation Modality:

The project is being implemented under the National Execution/Implementation Modality (NEX/NIM) by the DHM/MoSTE as the lead Implementing Agency. The three other collaborating partners are Department of Water Induced Disaster and Prevention (DWIDP), Department of Soil Conservation and Watershed Management (DSCWM) and Department of National Parks and Wildlife Conservation (DNPWC). The project collaborating partners are responsible for planning, technical oversight and monitoring of the field activities under the project components.

At the local level the project will be closely working with district offices of collaborating partners such as the District Soil Conservation Office (DSCO), DWIDP's Division Offices and Sagarmatha National Park (SNP) and other District Line Agencies, District Development Committees (DDCs), Village Development Committees (VDCs), SNP/Buffer Zone Institutions, Nepal Red Cross Society, Local NGOs & CBOs, Civil Society, Local Youth Clubs, Local Monasteries, Local Schools, Teachers Network and Service Providers.

Approximately 96,562 vulnerable people will be directly benefitting through this project. Particular attention will be paid to the differential vulnerabilities of men, women, children, the elderly and marginalized groups.

An Overview of the Project's Working Areas:

The project covers two distinct geographic areas of High Mountains and the Terai and Churia region.

In total, the project has 5 working districts and 11 Village Development Committees (VDCs); comprising of Solukhumbu district in the high mountains and 4 districts in Terai and Churia – Mahottari, Saptari, Siraha and Udaypur. These 11 VDCs include – Chaurikharka, Khumjung, Namche in Solukhumbu district, Sarpallo and Nainhi in Ratu watershed in Mahottari district, Dighawa and Pakari in Khando watershed in Saptari district, Tulsipur and Pipara Pra Pi in Gagan watershed in Siraha district and Jogidaha and Hadia in Trijuga watershed in Udaypur district.



Management Arrangement

Following arrangements are made for the smooth functioning of project activities:

- Project Steering Committee (PSC)
- Project Executive Board (PEB)

Technical Advisory Group (TAG) provides guidance and supervision in technical matters.

The PSC is composed of:

1. Chair, Secretary, Ministry of Environment, Science and Technology (MoEST)
2. Representative, Office of the PM and Council of Ministers
3. Representative, National Planning Commission (NPC) Secretariat
4. Representative, Ministry of Finance (MoF)
5. Representative, Ministry of Forests and Soil Conservation (MoFSC)
6. Director General, Department of National Parks and Wildlife Conservation (DNPWC)
7. Director General, Department of Soil Conservation and Watershed Management (DSCWM)
8. Director General, Department of Water Induced Disaster and Prevention (DWIDP)
9. Representative of Ministry of Irrigation (MoI)
10. Representative, Ministry of Energy (MoEn)
11. Representative, Ministry of Federal Affairs and Local Development (MoFALD)
12. Representative, Ministry of Home Affairs (MoHA)

13. Representative, Donor Community
14. Representative, Kathmandu University and Tribhuvan University
15. Representative, Civil Society/NGO
16. Representative, Private Sector
17. Ministry of Tourism and Civil Aviation (and/or Nepal Tourism Board)
18. UNDP/GEF representative in the role of Senior Advisor (representing the interests of the parties project)
19. Representative, ICIMOD
20. Representative, Water and Energy Commission Secretariat (WECS)
21. National Project Director (NPD), Member Secretary

The composition of PEB: The PEB is the decision making body responsible for ensuring that the project implementation follows the agreed strategies of implementation, project outputs are produced as per the project objectives, and project inputs are best utilized for producing maximum outputs in a timely and cost effective manner.

1. Chair, National Project Director (NPD), DG of DHM
2. Director General, Department of Water Induced Disaster and Prevention
3. Director General, Department of Soil Conservation and Watershed Management
4. Director General, Department of National Parks and Wildlife Conservation
5. Representative, Ministry of Finance
6. Representative, Ministry of Federal Affairs and Local Development
7. Assistant Country Director EECU, UNDP
8. National Project Manager (NPM), Member Secretary

Expected Project Results:

By the end of the project, it is expected that:

- 100% of the population in the Project Working Areas, directly vulnerable to GLOF impacts within the 27 risk settlements, will have been covered by Community Based Early Warning System (CBEWS);
- DHM will be operating a GLOF risk monitoring system and has a mechanism in place to communicate GLOF risk warnings to Ministry of Home Affairs (MoHA) and National Emergency Operation Centre (NEOC);
- Imja Lake will have been lowered by at least 3 metres, thereby reducing GLOF risks;
- Important stakeholders from Khumbu region will have been trained to manage and minimize GLOF risks;
- At least 70% of the population in the 3 working districts/ 6 VDCs will have access to 24 elevated tube wells and/or a flood-proofed drainage system;
- 100% of population of the Project Working Areas will have been covered by CBEWS in all river basins;
- Gender sensitive Village Disaster Management Plans prepared by Village Disaster Risk Management Committees;
- At least 4 vulnerable VDCs of 4 working districts will have CBEWS managed by local communities;
- Training in gender sensitive flood risk management including disaster preparedness will have been provided;

Key Achievements till date:

- Central and local level Inception Workshops have been conducted in the presence of the project stakeholders.
- Baseline Studies related to GLOF Scientific Data, Vulnerability Assessment and Community Based Early Warning System (CBEWS) have been conducted under Component I.
- Detailed technical studies related to Sediment Control and Flood Proofing Drainage System have been undertaken in the four target project working districts under Component II. Based on the findings of these reports, the project implementation will gain momentum.
- Imja Lake lowering is one the major project outputs, preliminary works related to design study of Imja Lake lowering has been initiated.
- A Technical Advisory Group (TAG) comprising of Institution's Representative Members (IRMs) and Technical Experts (TEs) has been formed, which will be providing technical and strategic guidance to the Project Management Unit (PMU)/CFGORRP.
- The Field Coordination Office (FCO) is stationed at the District Soil Conservation Office, Siraha, Lahan. The FCO is now fully operational.
- Gender and socially inclusive eight Village Disaster Risk Management Committees (VDRMCs) and thirty-five Community Development Management Committees (CDMCs) have been formed in the eight project VDCs in accordance with the Local Disaster Risk Management Planning Guideline (LDRMP) guideline.



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