

COMMUNITY-BASED FLOOD AND GLACIAL LAKE OUTBURST RISK REDUCTION PROJECT (CFGORRP)



CFGORRP aims to reduce human and material losses from Glacial Lake Outburst Floods (GLOFs) in Solukhumbu district and catastrophic flooding events in the Terai.

BACKGROUND

Nepal is among the countries most vulnerable to the impacts of climate change. The average temperature is increasing at an annual rate of about 0.04° C and the trend is even higher in the mountainous regions. This is contributing to glacial retreat and expansion of lakes, thereby increasing risk of Glacial Lake Outburst Floods (GLOFs). Nepal has witnessed 24 GLOF events till date.

Out of 1,466 glacial lakes in the country, 21 have been identified as potentially dangerous, of which six have been placed in the high-risk category, such as Lake Imja in Solukhumbu district. Located at an altitude of 5,010 masl, Imja covers an area of 1.28 sq. km, has a depth of 148.9 meters, and holds 75.2 million cubic meters of water—the overflow of which poses a serious threat to people living downstream.



UNDP and the Government of Nepal lowered the water level in the Imja glacial lake to minimize threat of flooding in downstream communities

Another visible trend in recent years has been the rising magnitude and frequency of concentrated rainfall, a phenomenon that is especially evident in the Churia region. Fragile geology, deforestation/degradation of the Churia hills, compounded by concentrated rainfall, is known to cause flash floods and massive sediment transport in Churia-originating rivers, leading to severe flooding, inundation and loss of life and property in downstream communities.



QUICK FACTS:

Duration: 2013 - 2017

Focus: Climate Change Adaptation and Disaster Risk Management

Source of Funding: Government of Nepal, UNDP and Global Environment Facility (GEF)

Implementing Agency: Department of Hydrology and Meteorology (DHM)/Ministry of Population and Environment (MoPE)

Collaborating Partners: Department of National Parks and Wildlife Conservation (DNPWC); Department of Soil Conservation and Watershed Management (DSCWM) and Department of Water Induced Disaster Management (DWIDM)

Total Budget: US\$ 7,249,430

Area: The Project covers 12 VDCs in Solukhumbu, Mahottari, Siraha, Saptari and Udayapur districts

ACHIEVEMENTS SO FAR



Bio-engineering works on embankments along flood-prone rivers are a key aspect of CFGORRP's flood-risk management

- Successfully lowered the water level in Imja Lake by 3.4 meters through construction of an artificial open channel.
- Operationalized hydromet and GLOF Sensors in the periphery of Imja Lake, including automated early-warning sirens in six prime settlements across the 50 km high risk zone of the Imja Dudh Koshi River Corridor.
- Completed 13.4 kms of embankment with gabion revetment and bioengineering works to stabilize the course of flood-prone rivers.
- Implemented sediment trap measures implemented in 11 sediment-laden tributaries of the Ratu.
- Operationalized 7.4 km flood-proofing drainage systems and 35 elevated tube wells.
- Developed 18 safe evacuation centers.
- Operationalized 36 Community Based Early Warning Systems (CBEWS).
- Developed and shared Sediment Monitoring Protocols as a resource material among collaborating partners.
- Developed a Training of Trainers (ToT) manual on GLOF risk management, and trained and mobilized 12 local resource persons.
- Formed, equipped, capacitated and mobilized eight local Disaster Risk Management Committees, 35 Community Development Management Committees and 90 taskforces.
- Imparted trainings on Flood and GLOF risk management to 1,201 local, VDC, district and national-level representatives and officials from line agencies.
- Organized 52 mock drill events on flood/GLOF risk management, attended by 11,354 committees/taskforce members and representatives from vulnerable groups.
- Held 33 street drama demonstrations, observed by 8,025 persons belonging to vulnerable groups.

EXPECTED RESULTS

100% of the communities in project areas who are directly vulnerable to GLOF/flood impacts will be covered by CBEWS.

A GLOF risk monitoring system will be operated by the Department of Hydrology and Meteorology, with a mechanism in place to communicate GLOF risk warnings to the Ministry of Home Affairs and National Emergency Operation Centre.

Imja Lake will be lowered by at least three meters to reduce GLOF risks.

Key stakeholders will be trained to manage and minimize GLOF/flood risks.

GENDER AND SOCIAL INCLUSION

- Ensured involvement of women and marginalized people in project activities.
- Ensured that 38% of key positions in local disaster risk management committees were occupied by women.
- Ensured that 41% Janajatis, 17% Dalits and 16% members of marginalized groups were represented in the local taskforces/committees.

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