



# DEVELOPING CLIMATE RESILIENT LIVELIHOODS IN THE VULNERABLE WATERSHED IN NEPAL (DCRL)

Government of Nepal  
and  
United Nations Development Programme



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## KEY FEATURES

<b>Project Title</b>	Developing Climate Resilient Livelihoods in Vulnerable Watershed in Nepal (DCRL)
<b>Duration</b>	01 December 2020 – 31 May 2024
<b>Implementing Agency</b>	Ministry of Forest and Environment Department of Forests & Soil Conservation (DFSC)
<b>Budget</b>	GEF-LDCF: US\$7million UNDP TRAC: US\$900,000 Government of Nepal Co-Financing: US\$34,893,000
<b>Working Areas</b>	Lower Dudhkoshi Watershed
<b>Primary Beneficiaries</b>	121,606 vulnerable people in lower Dudhkoshi watershed

# Developing Climate Resilient Livelihoods in the Vulnerable Watershed in Nepal

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## INTRODUCTION

The Mid Mountain watersheds of Nepal are prone to multi hazards (drought, landslides, and floods) and the impacts are magnifying due to its topographic settings, inappropriate anthropogenic activities, and adverse impacts of climate change. Climate change is intensifying the monsoon rainfall and is causing accelerated snow and glacial melt rates. The disastrous trends are increasing and contributing to more multi hazard problems causing damages to agricultural land, physical assets, economic properties, and ecosystem services.

At the other extreme, water scarcity and climate-induced drought hazard have been emerging as one of the major challenges in the mid-hill watersheds in Nepal. The drought stresses in combinations with



other hazards and socio-economic conditions of local communities, the problem is exacerbating and making society more vulnerable, and sometimes becoming environmental causes of displacement. The temporal and spatial variability of rainfall and runoff is intensifying the problem of excess water during the monsoon and water scarcity during the dry season creating serious threat on farming system, and food security.

A long-term solution to this climate change problem is to rehabilitate and maintain functional integrity of watersheds that have critical functions of water storage and release, infiltration, drainage control with due emphasis on resilient livelihood development. Nepal is transferred into federal system and the constitution of Nepal is giving the roles and responsibilities among three spheres of government for managing the natural resources, disaster risk, and climate changes issues. The coordination and harmonization of policy and institutional frame, adoption of adaptive innovative technology, building community stewardship are becoming critically important to address these multifaceted problems. To address this, a pioneer initiative is taken through Global Environment Facility (GEF)-Least Developed Country Fund (LDCF) project "Developing climate resilient livelihoods in the vulnerable watershed in Nepal". The project is being implementing at the pilot scale in Lower Dudhkoshi watershed, major tributary of Sunkoshi sub basin, located in eastern part of Nepal.

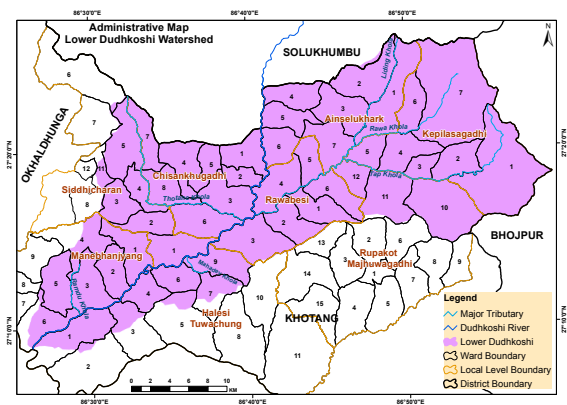
## **OBJECTIVE**

This project focuses on safeguarding vulnerable communities and their assets from climate change-induced disasters by applying a long-term, multi-hazard approach – with a particular stewardship role for women and marginalized communities. The project also aims to address the functional integrity of pilot watershed through capturing the policy, institutional knowledge gaps, adoption of new tools and techniques, and interventions of multiple activities at pilot scale.

## WORKING AREA

The project area is the confluence of Dudhkoshi and Sunkoshi at the boundary between Khotang and Okhaldhunga districts in the eastern part of the country in province 1. The project will focus activities in Lower Dudhkoshi watershed that comprises 844 km<sup>2</sup>, 8 local government units “palikas” (5 at Khotang and 3 at Okhaldhunga), and 51 wards. The other adjoining watersheds Molung, Likhu, Sunkoshi canyon are considering for watershed assessment.

District	Rural/Municipality
Okhaldhunga	Manebhanjyang Rural Municipality
	Siddicharan Municipality
	Chisankhugadhi Rural Municipality
Khotang	Ainselukharka Rural Municipality
	Halesi Tuwachung Municipality
	Kepilasagadhi Rural Municipality
	Rawa Beshi Rural Municipality
	Diktel Rupakot Majhuwadhi Municipality





## PROJECT CONTRIBUTION TO SUSTAINABLE DEVELOPMENT GOALS (SDGS)

The project is envisioned to be contributed to the following five SDGs.





**11** SUSTAINABLE CITIES AND COMMUNITIES



**13** CLIMATE ACTION



**15** LIFE ON LAND

## EXPECTED OUTCOMES

### **Outcome 1: Integrated watershed management framework has been established to address climate change induced floods and droughts**

**Output 1.1:** Watershed condition assessments updated, and hydrometeorological hazard, risk, vulnerability, and socio-economic model of climate change impacts delivered to underpin watershed management decisions across the sectors

**Output 1.2:** Climate change risks addressed in watershed rehabilitation and management framework

**Output 1.3:** Specialised technical training and technology delivered

**Output 1.4:** Enforcement mechanisms for watershed management and land policies embedding climate change considerations, including legal incentives to enable PES





**Outcome 2: Integrated watershed management practices introduced and scaled up in 1 watershed covering 844 km<sup>2</sup> (84,400 ha) of watershed areas and benefiting 121,606 vulnerable people.**

**Output 2.1:** Based on risk and vulnerability assessments, integrated, adaptive sub-watershed management plans developed for four target sub-watersheds to guide investments

**Output 2.2:** Water and drainage control measures implemented at the sub-catchment level, including water retention structures and catchment ponds with groundwater recharge, controlled drainage and with maintenance systems established

**Output 2.3:** Watershed rehabilitation, Conservation farming and integrated agroforestry practices introduced interspersed with fodder and controlled fuel wood production (including efficient stoves) with active involvement of women

**Output 2.4:** Community stewardship programmes established and implemented within the selected sub-watersheds with focus on women and marginal communities

**Output 2.5:** Knowledge management and learning

## KEY ACTIVITIES

- Multi-hazard, modelling and mapping, tools development, and catchment prioritization.
- Revision/Development of watershed assessment methodologies, guidelines, Establishment of project Spatial data Index (SDI)
- Revision/Development of appropriate policy, institutional frame, guidelines, standards, and protocols at 3 tiers of government (federal, province, local)
- Development of institutional framework at local level for Integrated Watershed Management (IWM)
- Development and implementation of capacity development plans, and training across multi sectors
- Hydro meteorological monitoring and its application, Development of Watershed Finance System Plans, Payment for Ecosystem Services, strengthening of local communities, natural resource management groups.
- Implementation of Integrated, adaptive watershed management plans on pilot scale, designs of multi-purpose water retention/conservation structures
- Water sources protection including wells and springs, land productivity enhancement, functional water use/reuse systems, farmers education/training on conservation farming and agroforestry
- Promotion of traditional watershed friendly practices, reforestation of degraded slopes using seed bombing.



- Revision of NRM groups' operational plan (specifically community forestry and leasehold forestry groups) for promotion of soil and water conservation and watershed management.
- Connecting people to Information and knowledge for Institutional Knowledge Management

## **GENDER EQUALITY AND SOCIAL INCLUSION (GESI)**

Project has developed Gender Action Plan (GAP) that helps in mainstreaming GESI in developing climate resilient livelihoods in the project working areas. DCRL project also emphasized to integrate GESI across the project cycle. GESI will be mainstreamed in development and revision of government policies guideline related to watershed management across three spheres of the government (local, provincial, and federal). At the field level, project ensures meaningful participation of women, and people from socially excluded group mostly Dalit, janajati, and other marginalized groups. User committees to implement the community level activities will be formed inclusive. Project will prioritize women and people from socially excluded groups on capacity building events, and women friendly agriculture technologies will be introduced. The disaggregated data of the project beneficiaries will be maintained and disseminated accordingly.



## PROJECT IMPLEMENTATION MODALITY

The project is being implementing following National Implementation Modality (NIM) as agreed between Government of Nepal and United Nations Development Programme. The implementing partner is department of forests and soil conservation having the Project Management Unit (PMU) at Forestry Complex, Babarmahal, Kathmandu and Project Implementation Unit (PIU) at Siddicharan, Okhaldhunga district.

*Photos ©DCRL/GoN/UNDP*



## Contact for Further Information

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