

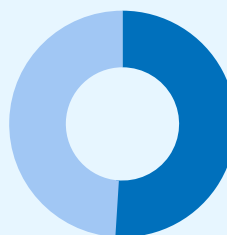
# Developing Climate Resilient Livelihoods in the Vulnerable Watershed in Nepal (DCRL)



**59,191**  
Beneficiaries



**49.8%**  
(33,332)



**50.1%**  
(33,984)

## Key Highlights



Enhanced capacity



Promoted integrated watershed management



Promoted conservation farming and livelihood



Developed assessments/guidelines/policies



Established Water use/reuse system



Cultivated drought tolerant NTFPs species

## Aerial seed dispersal with drone application in degraded land



DCRL piloted aerial seeding using a drone to reintroduce greenery to barren landscapes with a canopy cover of less than 10% of Okahldhunga and Khotang district. The goal was to rehabilitate degraded land through innovative technology in inaccessible terrain where conventional plantation was difficult.

DCRL adopted aerial seeding technology using a UAV drone in partnership with the Institute of Engineering, Pulchowk, and a team of young innovators from Geovation Nepal. Developing a machine capable of dispersing seeds at the desired site was a challenging accomplishment, necessitating a precise blend of robotics and innovation. This stands as the pioneering effort of its kind in the country. The initiative can be replicated to rejuvenate the greenery on a large scale in remote or inaccessible areas.

## DCRL representation at



The DCRL team, led by Dr. Prem Prasad Paudel, National Project Manager, and Mr. Ganesh Paudel, National Project Director, showcased the DCRL project's initiatives at the Nepal pavilion during COP 28. Dr. Paudel highlighted innovative initiatives accomplished by DCRL project such as aerial seeding through UAV technology, integrated water stress management strategies encompassing water management, drought risk mapping in the pavilion.



# Developing Climate Resilient Livelihoods in the Vulnerable Watershed in Nepal (DCRL)



## Field Interventions

The protection of water sources, catchment ponds, construction of multipurpose ponds, contour trenches, rainwater harvesting, conservation farming, NTFPs plantation, capacity building training, and workshops are the key activities implemented in the year 2023.

### Contour Trenches

Contour trenches constructed to increase the soil's moisture-holding and recharging capacity and reduce surface runoff and soil erosion



**Total** 15 km  
**Beneficiaries** 5,951

### Catchment ponds

Catchment pond constructed to reduce soil erosion, enhance groundwater recharge, and provide water for multiple uses such as drinking water, irrigation, recreational activities, and water for livestock and wildlife.

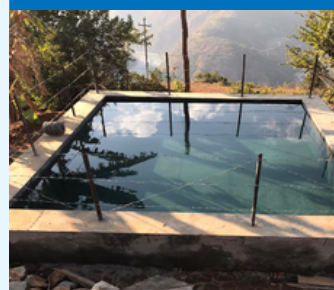
**Total** 63  
*catchment ponds constructed*

**Beneficiaries** 6,829



### Multi Purpose Ponds

Multipurpose pond constructed to support the Majhi community's livelihood through multiple uses including fisheries and irrigation, through the utilization of pond water.



**Total** 10  
*multipurpose ponds constructed*

**Beneficiaries** 1,685

### Water Source Protection

Water source protected and managed to ensure the protection and management of critical water sources to improve water availability for its multiple applications.

**Total** 253

**Beneficiaries** 20,504



### Water Holes

Water holes constructed in drought-prone areas to ensure the availability of water to the community and encourage groundwater recharge.



**Total** 13  
*water holes constructed*

**Beneficiaries** 1,844

### Operational Management Plan of NRM Groups Revised



A total of 60 operational plans of Natural Resource Management Groups (NRM) has been revised in 2024.

### Enhanced Knowledge and Skill of Natural Resource Management (NRM) Groups

The project has enhanced the knowledge and skill of 500 NRM group members on climate change, adaptive soil conservation, and watershed management, drought tolerant NTFPs cultivation/promotion on shrubland through different trainings.



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### Rainwater harvesting

The rainwater harvesting systems are installed to collect rainwater from the household roof, which can then be utilized in household chores and irrigation



**Total** **30**  
*households (HHs) supported*  
**Beneficiaries** **188**

### Micro irrigation pond

Micro irrigation ponds are constructed to supply water in precise, controlled, and small quantities for the cultivation of crops.

**Total** **15**  
*Micro irrigation ponds constructed*  
**Beneficiaries** **6,829**



### Roadside slope stabilization



The project has been practicing road slope erosion control mechanism using vetiver and other suitable vegetation species such as Amliso, Nepier, Barsin, Bambo (Bio-Engineering) along contour trenches and land restoration (spring shed protection) using gabion box in water source catchment areas.

### Improved Cooking Stoves (ICS) installation

Improved Cooking stoves (ICS) with fuel-efficient technology are installed to ensure a smokeless kitchen. 10 local people were trained in ICS installation in the year 2022.

**Total** **225**  
*households (HHs) supported*

**Beneficiaries** **1,169**



### Conservation Farming

Conservation farming is carried out to protect fragile forests, stabilize the land and deliver livelihood and adaptation benefits to the vulnerable communities in the target watershed.



**Total** **350**  
*ha covered*  
**Beneficiaries** **2,162**

### Conservation farming and soil fertility management training

The project has enhanced the knowledge and skill of 337 local farmers (community) on integrated pest management, integrated farming systems, fodder production, agroforestry, greenery and animal husbandry. through conservation farming and soil fertility management.

### Non-Timber Forest Product (NTFP) Plantation

Cultivation of drought-resistant NTFPs species is carried out to safeguard soil health and offer alternative sources of income for impoverished households..

**Total** **80** *ha covered*  
**Beneficiaries** **1,169** *HHs*



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## Capacity building trainings and workshops



Workshop on Watershed Characterization and Prioritization Tools and Watershed Condition Assessment Methodology and Guideline



Training on fundamental concept, principles and application of drone survey



Interaction/capacity development for Elected Women Representative and local Women Leaders



Training on application of drone and GIS based image processing for IWM



Training to social mobilizers on baseline survey and KOBO tool application



Local Disaster Management Committee Meeting



Vegetables and Fruits Cultivation and Management Training



Training on Integrated Water Management for Conservation Farming



Training on Soil and Water Sampling Tools and Techniques



Sharing and validation of MHVR and Local Plans to Mayors, vice mayors, ward chairpersons, and line agencies