

TRAINING ON

# Spring revival and springshed management for strengthening water security and climate resilience in the HKH

9–12 April 2023 | Living Mountain Lab (Godavari) and ICIMOD headquarters

## About the training

Given the growing issue of spring depletion and consequent water scarcity across the Hindu Kush Himalayan region (HKH), this four-day training will focus on spring revival and springshed management with practical field-based sessions at Godavari and Kavre. Participants will learn about revived springs in Nepal (with lessons from Namobuddha Municipality in Kavre) and ICIMOD's approach to spring revival through hands-on exercises. The training will help frame a common understanding of springshed management planning and implementation.

## Objectives

- Increase knowledge about issues and the importance of gender and socially inclusive springshed management in the context of Nepal and the HKH region
- Develop a shared understanding of the concepts and methodology for reviving springs through theoretical and practical exercises and community-based success stories

## Expected outcomes

The training will help build capacity among participating representatives from municipalities/gram panchayats (village councils) to effectively incorporate springshed management into their planning and strategic processes, with budget planning and allocation. The training is expected to create an enabling environment for scaling springshed management across countries in the HKH.

## Expected participants

This training will target local governments and institutions, particularly from India and Nepal. Local governments have a key role in promoting inclusive and participatory springshed management approaches for enhancing the water security and climate resilience of local communities.

## Background

Springs are seen as the social, economic, cultural, and ecological pillars of sustainable mountain development in the HKH. There is a growing body of anecdotal evidence of springs drying up in across the mountains and mid-hills of the HKH. There may be several factors contributing to the drying of springs. Climate variability and change, land degradation and increasing impervious areas, haphazard infrastructure development, loss of good local knowledge and practices, growing instances of natural hazards, and a lack of governance systems are leading to the degradation of the spring resources upon which millions of rural and urban communities and biodiversity depend. Spring revival and springshed management are therefore vital to ensure present and future water security in the HKH.

Springs are a part of the groundwater system, and the science of hydrogeology that governs the occurrence and movement of water in the underground aquifers in

the mountains is poorly understood. This often results in a misconception regarding springs (that dissociate springs from groundwater systems) and this, in turn, creates misaligned policies that exacerbate the problem. Springs are also part of complex socio-technical and informal governance systems with pronounced gender, equity, and cultural dimensions and these systems are not well understood as well, again leading to inappropriate policies and interventions. Efforts to protect these vital resources can help ensure water security and improve the management of land and water resources.

We have worked with some municipalities of Nepal and other organisations and institutions in the HKH region to apply inclusive springshed management measures in some critical springsheds (such as Kavre and [Godavari](#)) of Nepal. Some municipalities have also demonstrated some exemplary examples in spring revival, but they are insufficient for scaling in Nepal due to a lack of proper planning and technical capacity at the municipal level.

## Agenda

### Day 1 | Sunday, 9 April 2023

Venue: Living Mountain Lab, Godavari

Time	Programme
SESSION I – Introduction to springs and overview of springshed management	
Moderators: <b>Karishma Khadka</b> , Springshed Management Associate, ICIMOD, and <b>Gunanidhi Pokhrel</b> , hydrogeologist	
08:30–09:00	Registration
09:00–09:10	Opening remarks – <b>Pema Gyamtsho</b> , Director General, ICIMOD
09:10–09:15	Opening remarks – <b>Gajendra Maharjan</b> , Mayor, Godawari Municipality
09:15–09:20	Introduction to Action Area D: Restoring and Regenerating Landscapes – <b>Bandana Shakya</b> , Action Area Coordinator, Restoring and Regenerating Landscapes, ICIMOD
09:20–09:30	Setting the context and sharing the objectives of the training – <b>Sanjeev Bhuchar</b> , Senior Watershed Management Specialist, ICIMOD
09:30–09:40	Introduction to the Living Mountain Lab at Godavari – <b>Surendra Raj Joshi</b> , Head, Living Mountain Lab, Godavari, ICIMOD
09:40–10:00	Introduction of participants
10:00–11:00	Group photo and visit to the Living Mountain Lab – <b>Surendra Raj Joshi</b> and <b>Yona Khaling Rai</b> , Knowledge Park Associate, ICIMOD
11:00–11:15	Tea break

Time	Programme
11:15–11:30	Pre-training assessment
11:30–12:00	Importance and concepts of inclusive springshed management – <b>Madhav Dhakal</b> , Watershed and Springshed Analyst, ICIMOD
12:00–13:00	Introduction to the six-step protocol for reviving springs – <b>Karishma Khadka</b> and <b>Madhav Dhakal</b> , ICIMOD
13:00–14:00	Lunch
14:00–14:30	GESI integration in springshed management – <b>Shiba Satyal Banskota</b> , Gender Equality and Social Inclusion Lead, ICIMOD
14:30–15:00	Hydrogeological concepts for springshed management – <b>Gunanidhi Pokhrel</b>
15:00–15:30	Success stories on spring revival and springshed management from the HKH – <b>Sanjeev Bhuchar</b> , ICIMOD
15:30–15:45	Tea break
15:45–16:30	Experience sharing from Dhankuta, Kavre, and Sikkim on spring revival – Representative from Namobuddha Municipality, Kavre – Representative from Chhatarjorpati Rural Municipality, Dhankuta – Representative from Sikkim, India
16:30–16:45	Reflections from Day 1 – Participants
16:45–17:00	Briefing of field visits – <b>Madhav Dhakal</b> , ICIMOD
17:00	Return to hotel in Kathmandu

## Day 2 | Monday, 10 April 2023

Venue: **Living Mountain Lab, Godavari**

Time	Programme
SESSION II: Understanding spring types, status, and potential recharge area Facilitators: <b>Madhav Dhakal</b> , <b>Karishma Khadka</b> , <b>Gunanidhi Pokhrel</b> , and <b>Sushmita Kunwar</b> , Communication Associate, ICIMOD	
09:00–10:00	Departure from hotel and travel to the field site
10:00–12:30	Field visit for geological study <ul style="list-style-type: none"> <li>• Observing rocks and understanding the basics of mapping</li> <li>• Understanding basic concepts in hydrogeology and their linkages with springs</li> </ul>
12:30–13:30	Lunch at View Bhrikuti
13:30–16:00	Field visit to the springs (Godavari Kunda, Thulo Seem, and Naudhara) <ul style="list-style-type: none"> <li>• Understanding the spring inventory process</li> <li>• Measuring spring discharge and water quality</li> <li>• Understanding the social and governance systems related to springs</li> </ul>
16:00–17:00	Return to hotel in Kathmandu



### Day 3 | Tuesday, 11 April 2023

Venue: Bhakundebesi, Namobuddha Municipality, Kavrepalanchok District

Time	Programme
SESSION III – Co-learning from pilots: Process, approach, and results	
Facilitators: <b>Madhav Dhakal</b> , <b>Karishma Khadka</b> , <b>Gunanidhi Pokhrel</b> , and <b>Sushmita Kunwar</b>	
08:00–10:30	Departure from hotel and travel to the field site
10:30–13:00	Field visit to the springs (Patalko Dhara and Bhagbate Pakhako Kuwa) <ul style="list-style-type: none"><li>• Discussion with the local community: Community perspectives and challenges</li><li>• Understanding the linkages between spring and geology</li><li>• Observing measures for spring revival (physical, biological, and institutional)</li><li>• Understanding the impacts of spring revival activities</li></ul>
13:00–13:45	Travel to hotel in Dhulikhel for lunch
13:45–14:45	Lunch
14:45–15:15	Reflection of the field visits
15:15–17:00	Return to hotel in Kathmandu

### Day 4 | Wednesday, 12 April 2023

Venue: ICIMOD headquarters, Kathmandu

Time	Programme
SESSION IV – Reflections, way forward, and action planning	
Moderator: <b>Madhav Dhakal</b> , ICIMOD	
09:00–09:15	Summary of the three-day training – <b>Madhav Dhakal</b> , ICIMOD
09:15–10:45	Preparation of action plans for each municipality – Participants
10:45–11:00	Post-training assessment
11:00–11:30	Participants reflections on the training
11:30–11:40	Way forward – <b>Sanjeev Bhuchar</b> , ICIMOD
11:40–11:50	Closing remarks – <b>Izabella Koziell</b> , Deputy Director General, ICIMOD
11:50–12:20	Certificate distribution
12:20–12:30	Vote of thanks – <b>Karishma Khadka</b> , ICIMOD

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