

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

VOICES FROM LOCAL GOVERNMENT

## Key messages and recommendations

Springs are vital resources for biodiversity and for millions of rural and urban communities of the Hindu Kush Himalaya (HKH). These natural water sources are also seen as social, economic, cultural, and ecological pillars of sustainable mountain development in the region. However, 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 degradation of these spring resources. Reviving springs and managing springsheds – the areas of land that contribute groundwater to a spring – is vital to ensure present and future water security in the HKH.

At ICIMOD, we ran a four-day training course (9–12 April 2023) on spring revival and springshed management which brought together local governments and institutions from India and Nepal.

**Here we present key messages and recommendations from the event for future action:**

### **WOMEN AT THE FOREFRONT AND COMMUNITY INVOLVEMENT**



Women possess a plethora of knowledge about springs and their importance, their locations and other details. It is crucial that women are included in the whole process, from decision making to springshed interventions, and that springshed management planning is Gender Equality and Social Inclusion (GESI) responsive.

Local community involvement is essential from the start of springshed management planning. Local communities must be prioritised and placed at the centre throughout the whole process of springshed management. This can be achieved through ongoing collaboration between local municipalities and communities, while ICIMOD's support will ensure further follow-up and facilitate required capacity-building training.

### **HYDROGEOLOGY AT THE HEART OF SPRING REVIVAL**



As springs are part of groundwater systems, it is crucial to have a clear understanding of hydrogeology – the area of geology that deals with the distribution and movement of groundwater.

The importance of hydrogeology and aquifers in managing springs needs to be recognised by all, from the national level to the community level. To achieve this, we recommend developing a comprehensive training and capacity-building programme for relevant sectors such as forest, rural development, water, urban development, and infrastructure. We recommend including hydrogeology in national science curricula.

## CO-BENEFITS OF SPRINGSHED MANAGEMENT



Spring revival and springshed management not only improve water quality and quantity, but also provide specific benefits to women, including reducing the time and effort spent on water collection, improving their access to clean water sources, improving health and agricultural productivity, and enhancing livelihoods and ecosystems. Springshed management is one of the most effective Nature-based Solutions for strengthening local water security and adaptation to climate change.

## KEY ROLE OF THE LOCAL GOVERNMENT



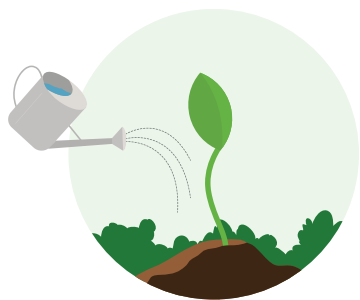
The role of municipalities is crucial for using the most effective approaches for widespread implementation, along with incentives and disincentives, including the enforcement of rules and regulation for malpractice. The most effective way for local governments to support spring revival is by providing an ‘enabling environment’. This involves creating the right conditions to successfully implement initiatives to restore and revive springs, implementing supportive policies, allocating resources/budgets, encouraging local community participation in decision-making processes, and organising capacity-building training.

## ADAPTATION AT THE LOCAL LEVEL



Local communities in the HKH are suffering from climate impacts, yet they are not the culprits. We urge the global community – including the development community, funders, the private sector and international conventions – to realise the pressing need for more climate finance and more incentives for the region, in order to work more on mitigation and adaptation to climate change.

## **REVIVING/MAINTAINING TRADITIONAL APPROACHES AND MODIFYING EXISTING UNSUSTAINABLE PRACTICES**



The key focus for water harvesting, storage and reuse should be the revival or maintenance of traditional approaches in agriculture and natural resource management. Traditional practices involve the restoration of cropping systems; agroforestry, in which trees are included in agricultural systems ; afforestation, and the planting of native trees /plants. It is imperative to replace harmful monocultures of pine with beneficial species (mixed forest) which support biodiversity, adapt to the local climate, and benefit local communities, especially women and marginalised groups. This can be done by local municipalities raising awareness among local communities about the advantages of planting native trees instead of pine trees, and facilitating afforestation campaigns and programmes.

An initial step to revive drying springs is to restore traditional ponds for groundwater recharge – a process where water is infiltrated from the surface to underground aquifers, the source of spring water. It is necessary to step up work on traditional pond restoration, through collaboration from the local government, local communities, civil society organisations and programmes.

To effectively address the issue of drying springs, it is essential to make infrastructure development greener. For agencies and individuals responsible for development work, this includes avoiding heavy machinery and recharge areas during road construction and constructing greener roads, supported by green development policies from the government.

ICIMOD and its Regional Member Countries gratefully acknowledge the generous support of Austria, Norway, Sweden and Switzerland for core and programme funding, and Australia, Canada's International Development Research Centre, the European Union, Finland, Germany, the United Kingdom, the United States of America, and the World Bank for project funding.