

Springs that sustain millions

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[Springs, the greenest source of water, and the strongest bulwark against climate change in the mountains are in dire need of protection.](#)

Springshed management has brought the much-required difference in people's lives, as the discharge of the springs increased (Image: Kedarnathsmritivan; Wikimedia Commons (CC BY-SA 4.0))

For a long time, villagers of Thanakasoga in Sirmaur, Himachal Pradesh knew about the depletion of their drinking water sources and the thirstier future they faced. "We depend on *bawdis* and natural springs, from where we fetched water. By 2012, our springs were dying and could hardly cater to the local demand. When the People's Science Institute (PSI) started working in the village, we were initially sceptical of their proposal to augment water in the springs. But, they stressed on the need to revive the sources of natural springs," says Anuradha Devi, a resident of Thanakasoga.

The villagers got a glimpse of their approach at Thakurdwara, where PSI had worked on recharging the depleting springs, Anuradha adds. She was speaking at a webinar on 'Springshed management in the Himalayan region based on field experiences from Himachal Pradesh: A way forward' co-organised by the Revitalising Rainfed Agriculture Network (RRA Network) and PSI. Some of the residents here have been trained, equipped and well informed to develop as para workers within communities.

Now capable of actively working on springshed management, Anuradha Devi, Reena Devi, Roshan Lal and Santosh Kumar of Thanakasoga shared how their work with PSI helped them regenerate and recharge mountain aquifers for drinking water security.

Springshed management has brought the much-required difference in their lives, as the discharge of the springs increased. "Till a few years ago, we had to trudge miles to fetch safe drinking water, a treasured item in their households. Now, we get regular water for drinking, and other purposes like washing of clothes and bathing our cattle," says Anuradha.

Springshed management in Himalayan region

The webinar was organised to discuss springshed management in the Himalayan Region – the concept, various complexities, implementation challenges, institutional requirements, financial requirements, benefits, as well as the way forward. It was attended by civil society organisations, government agencies, researchers and direct stakeholders at the village level.

"Given the need to strengthen the local response to the threat of climate change, by mismanaging groundwater sources such as springs, the oldest and greenest source of water, we are depleting one of the strongest buffers against climate change in the mountains," says Himanshu Kulkarni, ACWADAM.

He stated that in the Indian Himalayan Region comprising of three large river systems, there are an estimated 2-3 million springs, tapped by human beings. The numbers would be far higher if all sources are to be counted. There is a need to develop spring inventories at various levels – from local, regional, national to international level.

"On the one hand, the response entails increasing spring discharge by increasing the recharge into the mountain aquifers through various technical interventions, while on the other it involves controlling the demand of water from people, which needs community-led social interventions as well as policy changes. Springshed management becomes important here. It helps one conceptualise a correlation of springs to the source aquifers and watersheds and thereby identify the correct recharge areas for these springs," says Kulkarni.

He made a case for decentralising an understanding of springsheds to the local communities and other stakeholders through capacity building and training, thereby enabling better demand management through an improved understanding of the resource, as well as an improved recharge response.

["Springshed management as a concept is trans-disciplinary in nature and requires expertise not only regarding groundwater, watersheds, hydrology but also of societies, and therefore any systematic response towards this also needs to be multi-disciplinary in nature," says Kulkarni.](#)

Stressing the urgency for spring revival, Aditi Mukherjee of International Water Management Institute said: "There has been an increase in knowledge and information amongst the scientific community owing to the evidence-creation by civil society organisations such as ACWADAM, PSI and others. The interventions were not scientifically up-to-the-mark in the previous watershed programmes. This has also started changing gradually with the increased use of geology and hydrogeology in chalking out measures to address springshed management."

Changing aspirations of the people who are now demanding a continuous supply of good quality water in their homes and significant infrastructure development in mountainous areas without recharge area protection are important challenges to springshed management.

"Climate change is also a driver that affects rainfall patterns and spring recharge, thereby creating an urgent need to work on spring revival. The only way to take this forward is to involve the local governments like Panchayati Raj Institutions as well as the local communities," says Mukherjee.

Speaking about the Spring's Initiative, Bishwadeep Ghose of Arghyam highlighted the role of the community members in understanding the scientific basis of springshed, recharge areas, their maintenance as well as their ability to organically formulate community protocols that are sustained long after the intervention is over.

"There is no plan-B for water in the mountains, as when a spring or a pristine water source dries up, it is practically impossible to pump water from other sources at such high altitudes without incurring huge costs. This impresses upon the urgency required for spring revival in the mountains," says Ghose.

Mukherjee highlighted that in mountainous zones, spring rejuvenation is one of the best ways to adapt to climate change. "We also need to disseminate more information about the indirect benefits or co-benefits of springshed management activities like afforestation, reforestation etc. as well as the reduced need for fossil fuel-based energy to pump water to the highlands," she said.

Long-lasting changes cannot be brought through externally enforced government/agency guidelines, so Ghose stressed the need for single-window public investment vehicle for springsheds: "Despite multiple instances of practice to policy changes that have taken place, there is still no progress on the ground. Nor is there data available on location of springs. There is also a need for public funding for capacity building at the scale of various stakeholders," he said.

The Himachal Pradesh context

Mandeep Gupta, Jal Shakti Vibhag, Himachal Pradesh shared that source sustainability is central to the government's efforts. The GoHP has also initiated the Parvat Dhara program under which water sustainability, security and rejuvenation of water sources is prioritised. He suggested that for [bawdis](#) and other similar water sources arrangements can be made to restrict access to the main source.

"The efforts of the Jal Jeevan Mission are centred around the revival of water sources whether in mountain states or the plains. There is a provision of funds for this purpose in the Jal Jeevan Mission, and additionally, 50% of the funds provided to the states under the 15th Finance Commission are to be used for water and sanitation, with an increased focus on activities such as aquifer recharge and catchment protection," says D S Dhapola, Jal Jeevan Mission.

"Majority of the work undertaken being in Himachal Pradesh under MGNREGA is on rainwater harvesting and can be extended to include water harvesting in general. In areas like Hamirpur, Sujanpur etc., the local water sources are known as *khaatris*, which are a form of stored springs, and in other regions there are *bawdis*. These are lying defunct and can be restored considering that there is the flexibility given to the gram panchayat within the 15th Finance Commission on funding. A sub-scheme can be created out of the existing MGNREGA funds where around 10-20% funds are reserved for spring revival and rejuvenation work, based on a robust data of the number and location of springs in a particular panchayat," says Kirti Chandel, Rural Development Department, Himachal Pradesh.

"The state government needs to come up with a specialised program with dedicated funding to work on springs revival and rejuvenation," says Ravi Chopra, PSI stressing the need for addressing the policy and programmatic gaps.

The way forward

The meeting highlighted the role of the community members in understanding the scientific basis of springsheds, recharge areas, their maintenance as well as their ability to organically formulate community protocols that are sustained long after the intervention is over.

"The watershed guidelines under the Pradhan Mantri Kisan Sinchai Yojana (PMKSY) for the 15th Finance Commission has been prepared by the National Rainfed Area Authority (NRAA). It has made special provisions for springshed management and has tried to accommodate all its principles based on extensive inputs from the RRAN and PSI," says Mr B Rath, Technical Expert (Water), NRAA. He also added that in the strategy being worked upon for rainfed areas, river/spring rejuvenation is proposed to be given a special status. Efforts are being made to incorporate the aspects of hydrogeology into it.

The impact of climate change and anthropogenic interventions on the health of these springs, be it quality and/or quantity was stressed by Mukherjee.

"Every state should have a trans-disciplinary lead agency with multi-stakeholder arrangements with representation from CSOs, forest officials, PHED, district officials, etc. Within this state framework, there have to be program management units at the district level, to identify master trainers critical for scaling up. At the village level, there can be village councils on the lines of village WATSAN committees, for designing, implementation and monitoring," says Debshish Sen, PSI.

He further added the need for village-level facilitators or paraprofessionals identified and appointed by the community. "This kind of a multi-tier institutional framework has already been used by PSI in the north-eastern states of Meghalaya and Nagaland and can be used in other Himalayan states as well. The role of NGOs and CSOs in this work especially for scaling up can comprise of multiple roles, as different CSOs have varied expertise and skills," says Debasish Sen, PSI.

Therefore, we need to work in a consortium mode, so that the efforts and expertise of multiple CSOs, as well as other stakeholders, are synergised, and better scale is achieved.

The webinar can be viewed on Youtube

here

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