



## Panel Urges Plan to Save Himalayan Springs

Five Thematic Working Groups set up by NITI Aayog in 2017 have presented a report which aims to encourage well-being of the people in the Indian Himalayan Region (IHR).

- The five themes relate to improving water security in mountain towns and cities through revival of springs, developing responsible mountain tourism, increasing skilled workforce, transforming shifting cultivation in north eastern hill region to ensure ecological, food and nutritional security and making available required dataset and information.
- The Himalayas are the largest and tallest mountain range in the world, spanning 8 countries viz., Afghanistan, Pakistan, China, India, Nepal, Bhutan, Bangladesh, and Myanmar
- Most of northern India's river systems originate in the Himalayan region, fed either by glacial melt or the many springs that dot the mountainous landscape. The Himalayas, therefore are aptly known as 'the water tower of the earth'.

### Indian Himalayan Region

- The IHR covers ten states and four hill districts of India, viz. Jammu & Kashmir, Uttarakhand, Himachal Pradesh, Sikkim, Arunachal Pradesh, Meghalaya, Manipur, Mizoram, Nagaland, Tripura, among the states and the hill districts of Dima Hasao, Karbi Anglong in Assam and Darjeeling, Kalimpong in West Bengal.
- The uncontrolled demand-driven economic growth has led to haphazard urbanization, environmental degradation and increased risks and vulnerabilities, seriously compromising the unique values of Himalayan ecosystems.
- In addition to a focus on economic growth, the roadmap for sustainable development of the Indian Himalayas needs to be in sync with the relevant Sustainable Development Goals (SDGs).
- Therefore the development in the Himalayas must be fully embedded in the environmental, socio-cultural and sacred tenets of the region.

### Working Group I: Inventory and Revival of Springs in the Himalayas for Water Security

- Mountain springs are the primary source of water for rural households in the Himalayan region.
- As per a rough estimate, there are five million springs across India, out of which nearly 3 million are in the IHR alone.
- Spring discharge is reported to be declining due to increased water demand, land use change, ecological degradation, climate change and rising temperatures, rise in rainfall intensity and reduction in its temporal spread, and the decline in winter rain.
- Besides, water quality is also deteriorating under changing land use and improper sanitation.
- Traditionally, policy makers have broadly focussed on watersheds for they are easy to demarcate.
- However, the watershed concept only accounts for surface water movement over slopes, while movement of spring water which is groundwater, is determined by underlying geology, and the nature and slope of such rocks underneath the surface.
- The concept of watershed, therefore, cannot account for water which travels outside watershed boundaries, through rock beds that slope towards an adjoining watershed.
- For spring revival, the appropriate unit is the springshed – the unit of land where rain falls (recharge area), and then emerges at discharge point, the spring.

## Recommendations

- **National Programme on Regeneration of Springs in the Himalayan Region**
  - The programme will entail several short ( first 4 years), medium ( 5th – 8th years) and long-term actions (Beyond 8th year).
- **Mapping of Springs**
  - Systematic mapping of springs across the Himalayas and creation of a web-enabled database/web portal on which the springs can be mapped/tagged.
- **Implementing Revival of Springs**
  - Reviving springs and sustaining them requires a combination of scientific knowledge (hydro-geology) and community ownership of the resource.
  - Focus on ‘aquifer’ as the unit for planning and integrate watersheds and aquifers for a ‘springshed’ approach.
  - Development of adaptive strategies (risk management as an adaptation measure to climate change impacts), regular long-term monitoring of springs.
- **Capacity Building**
  - Create a cadre of young professionals and community-based resource persons (para-hydrologists) through training and capacity building programmes. This will help in efficient use of resources allocated for springshed management.
- **Policy**
  - The Government should launch a national mission/programme on springshed management.
  - The subject of springs transcends several ministries like the Ministry of Water Resources, Ministry of Environment, Forests and Climate Change (MoEF&CC), Ministry of Tribal Affairs, Ministry of Rural Development, Ministry of Drinking Water and Sanitation, and key institutions like State government groundwater agencies. Hence, there is a need for **inter-ministerial coordination**.
  - The Central government should promote regional efforts and platforms to exchange experiences and knowledge on springshed management.
  - State governments across the IHR (and also non-Himalayan States) need to take a proactive role in mapping and revival of springs as depletion/drying has socio-economic implications.
  - Mainstreaming of springshed management with other developmental programmes at National and in particular at the State level to facilitate more convergence with government schemes (e.g. Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) in Sikkim).
- **Cross-Cutting Issues**
  - Scientific knowledge from assessments on status of springs and techniques of springshed management need to be translated into simple language and communicated for policymaking and development of climate adaptation projects.