



**Biotica
Research
Today**

Vol 2:12 **1334**
2020 **1335**

Spring Rejuvenation for Water Security in Himalaya

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Open Access

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Keywords

IHR, Jal Abhayaranya, Rejuvenation, Springs

Article History

Received in 30th December 2020

Received in revised form 31st December 2020

Accepted in final form 31st December 2020

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How to cite this article?

Gosavi *et al.*, 2020. Spring Rejuvenation for Water Security in Himalaya. Biotica Research Today 2(12): 1334-1335.

Abstract

Mountain natural springs, a main fresh water sources for millions of people residing in Himalayan terrain are increasingly drying up, or becoming seasonal, causing untold misery to both rural and urban inhabitants of the Indian Himalayan Region (IHR). Consequently, many programmes were undertaken for rejuvenation of these spring sources. Jal Abhayaranya project of GBP-NIHE is one such initiative through which the Institute envisages development and management of one sustainable spring source of water within selected villages for ensuring the water security of the village. The propagation of the Jal Abhayaranya model is initiated with Inception Workshops through Webinar mode on 5th October, 2020 at GBP-NIHE Kosi - Katarmal, Almora, Uttarakhand. The deliberations of the workshop are highlighted here for the audience with the purpose of dissemination activities.

Meeting Report

The Indian Himalaya provides water to more than 75 millions of people live within the region as well as downstream. In many mountain and hill areas, water for drinking and household consumption is collected mainly from shallow wells (*naula*) and springs (*dhara*). According to one estimate, almost all 58,000 inhabited villages in IHR are dependent on the natural water springs or small streams originated from springs, of which at least half of the springs are drying up or have witnessed decline in water discharge resulting in acute water shortages across thousands of Himalayan villages and hill towns. The decline in discharge primarily due to the erratic rainfall, changing hydro-geology, warming climate, growing water demand, changes in land use patterns, deforestation, urbanization, developmental activities, etc. Water security under the dwindling spring discharge scenario across the Himalayas is drawing attention towards understanding the spring systems. Therefore, there is an urgent need for implementing spring rejuvenation programmes developed on the scientific basis of successful good practices and implementation model across all the Himalayan States in a mission mode. Consequently, under the funding of National Mission of Himalayan Studies (NMHS) Centre for Land and Water Resource Management (CLWRM) of GBP-NIHE thru its various partners taking lead in developing demonstrative models of Gram Jal Abhayaranya or Water Sanctuary in one Aspirational districts identified in each 12 IHR states by NITI Aayog under the project "Spring Rejuvenation for Water Security in Himalaya". The propagation of the Jal Abhayaranya model is initiated with Inception Workshop through Webinar mode on 5th October, 2020 at GBP-NIHE Kosi - Katarmal, Almora, Uttarakhand.

The webinar was focused on the two specific objectives: (i)

To explain the detailed work plan, role and responsibilities to each participating partner and stakeholders for implementing Jal Abhayaranya model, and (ii) To familiarize with common methodologies/ tools, activities and timeline related to field models and expected outcomes. The webinar was attended by 11 regional partners from 10 states and 1 UT of IHR, Subject matter expert, Director, Scientists and Project staff of the GBP-NIHE.

Welcome remark highlighted the present issues of spring sources across the Indian Himalayan Region (IHR) and showed the concern of drying of spring sources which in turns have serious repercussion on water security of the region. In this context, Institute seeks the development of 12 demonstration model of spring rejuvenation programme across the Himalayan states for enhanced water security under the Jal Abhayaranya project. The principle underlying the concept of Jal Abhayaranya or Water Sanctuary is that infiltration of rainwater into the recharge zone be increased through engineering and vegetative measures, so that there is an augmented discharge in the springs/lower order streams down the slope. A third and often decisive social engineering aspect which calls for cooperation/participation of the people dependent on water sanctuary needs to be kept into consideration for success of the Jal Abhayaranya.

As the workshop was organized specifically for the partners of the project to explain the detailed work plan, role and responsibilities of each partner in implementing the Jal Abhayaranya model; they were apprised with common methodologies/ tools, activities and timelines to conduct the project through preparatory phase, resource mapping phase, developmental phase, monitoring phase and management phase. The massive thrust of the project is on developing a cadre of para-hydrogeologists to build the skills of the youths of community in conserving and managing the precious water sources.

Further in workshop, future potential of springs discharge in Uttarakhand were discussed which was based on a project work under NMHS entitled as "Water resource management through spring and catchment rejuvenation in Uttarakhand for improving water security". It was emphasized that the percent of decreasing discharge (> 50%) of springs and dependent/

affected population could be the criteria while selecting the springs sources for recharge activities across the Himalaya.

Water scarcity is increasing and addressing this situation is a big challenge. Through this workshop and the planned project activity, it was envisaged that within next 2-3 years the project may come-up with a demonstration model of Jal Abhayaranya which is not only the spring water sanctuary, but it's shall cover all aspect of water, water use efficiency, water balance, water conservation etc. In future, this pilot model will be useful for the IHR states to replicate the same with mission mode to ensure water security across the Himalaya.



Figure 1: Webinar Flyer

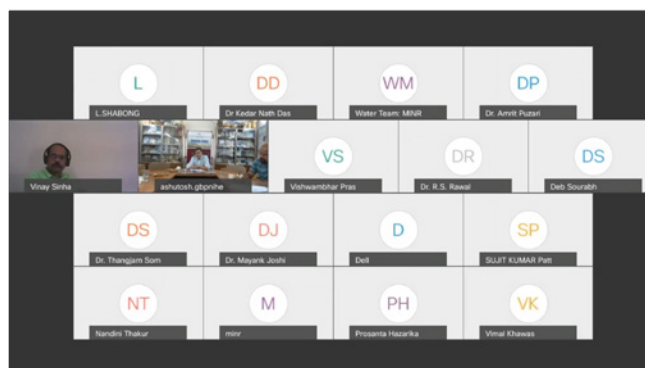


Figure 2: Webinar Participants