

## **PANI (Perennial and Natural Initiatives)**

*(Chintan International Trust-India)*

**Subject :Traditional water sources, their revitalisation,conservation and management in the hilly areas through amalgamation of different knowledge systems.**

*Area*

*Gram panchayat in the Vamanswal watershed area of Almora District, Uttarakhand (UK).*

### ***I.Background***

In the hills of Uttarakhand,water crisis is assuming grave proportions. This is despite rich traditional systems and techniques of water conservation and management in these areas. Despite many Govt piped water schemes to ensure water supply to different areas including villages, dependence of people on natural springs (naulas) for drinking water, traditional *dhara*, or spouted springs, streams is still there at least seasonally, as has been revealed through various studies. Springs are natural point sources of ground water discharge and are a life-line for people in the mountainous ecosystem.

**Traditional knowledge systems and practices** has played a very important role in the availability, access and control over water sources, by the community. But it seems there is a shift from local natural resources, conserved,maintained and managed structures to government schemes, which pump or pipe water from more distant albeit spring-fed sources. Traditional water sources have an important place in the cultural heritage and traditions, of Kumaon.

This has indeed impacted the self reliance and independence of community through reduced access and control, in ensuring good quality water supply throughout the year. This has affected people's perception and their relation with the water resources.

### **Deteriorating water scenario in the hill ecosystems**

Changing weather patterns , including precipitation patterns, climatic variability and extreme events are affecting spring discharge across the state with reports that 30-50% of UK's springs are drying up, causing once perennial streams to become seasonal. In Almora District, for example, where this study will be based, there has been a 25% decrease in precipitation over the past 50 years and a steady decline in discharge on spring-fed rivers like the Kosi.

Degrading forest resources, plethora of pine plantations, increasing incidents of water run off leading to severe land slides and soil erosion has aggravated the already deplorable water scenario.

### **Gender Roles and Responsibilities**

**Women** have been playing a very important role in the water related roles and responsibilities, including management of the traditional water structures. But unfortunately, their role and contribution seems to be very limited in the formal decision making processes on new water sources, their management. Their traditional roles and responsibilities, nevertheless has put them in the position of immense knowledge and wisdom on natural water springs, their maintenance and management.- Women can be a critical and crucial participant of this decision making process to enable integration of this knowledge and wisdom for the revival of sources and their management.

## ***II. Initiative to improve water condition***

Solitary attempts have been made through govt/non govt programmes intervention in hundreds of micro-watersheds across the state to harvest water (surface and roof run off) and **revitalize** natural springs through strategies (traditional and modern knowledge based) in water catchment area. *They need to be studied for the sustainability, effectiveness and impact and then further intensified to cover wider areas and arrest and improve deteriorating water situation.*

Under the present Action Research, an attempt is being planned in the working area, to improve ground water levels involving **hydrogeological techniques** as well. These techniques seem to be very promising (wherever they have been implemented) in playing a crucial role in the improving the water situation in the area, through active involvement and participation of the community in the study, development and management of water catchment areas for improved water recharge, judicious and effective utilisation and management of water sources from **Gender and Social equity perspective.**

**Training and Capacity building on the use of Hydrogeological studies in natural spring recharge is being imparted by ACWADAM([www.acwadam.org](http://www.acwadam.org)) Institute in Pune, Maharashtra.**

*Initiative would have a good integration of socio-economic-environmental-cultural as well as hydrogeological aspects. It will also have a judicious amalgamation of traditional and modern systems*

### **III. Action Research**

#### ***A. Broad Objective***

Increased, improved availability, access and control over water sources and management by community especially women and the marginalised sections, amalgamating traditional and modern knowledge systems.

#### ***B. Minor Objectives***

1. People's present perception of traditional water sources, their relevance with respect to their needs and requirements, changes which have come over the past two decades and the reasons therein. This will also involve study of the:  
  
- Science involved in the construction and repair of traditional natural water springs (naulas) using traditional knowledge and skill, and its impact on the water availability over the last two decades
2. Identification of water catchment areas through hydrogeological study, and their development and community management
3. Impact of these interventions on water situation in the working area and its hearing at various levels
4. Exploring possibilities of replication of the intervention in similar areas

#### ***C. Target Group***

- Women and men from select rural areas (gram panchayats) in Almora district

- Experts on traditional/modern water sources, techniques and management
- Stakeholders comprising local community (women and men), govt water and forest departments, local experts, practitioners and researchers.

#### ***D. Methodology/Strategy***

- Visiting similar initiatives carried out by other organisations- PSI, Lakshmi Ashram, Chirag and explore possibilities of collaboration
- Participatory Focused group discussions with the community particularly with women
- Interviews with experts, prominent residents of the villages, stakeholders
- Trainings and capacity building exercises to conduct hydro-geological studies
- Community based planning for catchment development and its management
- Amalgamation of traditional and modern knowledge systems
- Encouraging active involvement and participation of women in conducting studies and formal management processes

#### **Study and the Interventions would be carried out with Gender and Social equity perspective**

#### ***E. Broad Activities***

- Study of the present water scenario, diverse water sources, their availability, present status, reasons and factors

lying therein and the impact on various aspects of people's lives (this includes assessing the impact of past interventions)

- Visiting similar interventions in the same/similar ecosystem if possible to understand the initiative
- Community based sharing of the outcome of the study, planning for addressing water related issues in the working area
- Training and capacity building of local people particularly women, in conducting hydrogeological study
- Hydrogeological study in one of the areas
- **Implementation of the Field Interventions (based on plan and training)**

-to develop watershed area for improving water recharge to eventually recharge the local water resources

-explore and adopt ways (traditional + modern) of construction/repair of naula such as '**Kanthi Naula**' to ensure continuity in water availability in natural spring (minimise use of material and ways which clog spring water pores and obstruct water seepage)

-explore ways to harvest surface/roof run off water

-explore and adopt ways to minimise water use, reuse waste water

- Regular Monitoring of the process, activities and outcome
- Impact of the intervention on water recharge (if possible) /assessing through indicators
- Exploring possibilities of replication in other gram panchayats /regions

## ***F.Expected Outcome***

- Improved awareness and capacity on hydrogeological methods and techniques for revitalising of natural springs
- Improved awareness and capacity on other techniques/practices to harvest, water efficient ways and effective utilisation of waste water
- Increased and improved availability, access and control of the community over water management
- Active participation of women and the marginalised in hydrogeological study, maintenance and management of water sources
- Sensitisation at policy level to mainstream convergence of traditional and modern knowledge and techniques on large scale to address water related needs and requirements
- Exploring other possibilities of increasing water recharge, optimal water use, harvesting techniques using traditional and modern methods

## IV. TIME LINE

BROAD ACTIVITY	MONTH	REMARK
• Study of the present water scenario and other aspects	Sept 2022	
• Visiting similar interventions	May 2023- July 2023	
• Survey of the Naulas especially		
• Community based sharing and planning	July 2023	
• Training and capacity building	June-July 2023	
• Hydrogeological study	August 2023- Oct 2023	
• Interventions to develop watershed area		
• Regular Monitoring		
• Impact of the intervention		

		REMARK
Exploring possibilities of other interventions		
Advocacy at various levels to replicate/upscale		

## V.Budget Heads

Heads	Amount (INR)	REMARK
Honorarium	20,000	
Travel	40,000	
Boarding and Lodging	10,000	
Stationery, communication	5000	

**TOTAL: Rs 75,000**