NMHS
National Mission on Himalayan Studies

Standard Operating Procedure (SOP)
Web of Water Tanks Model
Water security by constructing small water reservoirs in web-based approach

NMHS Project: Creating Communities of Practice and resilient village ecosystems in the mountain region of Uttarakhand

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In mountain villages all across the Indian Himalayan Region, the water crisis is increasing due to climate change. Along with locally available water resources, conservation and management of its water is a big challenge. Under the National Mission on Himalayan Studies (NMHS) project, not only have the water requirements of Pata village of Nainital been fulfilled by the Web of Water Tanks Model, but now there is a proper arrangement of water for the farming, domestic use and other works. Today Pata village has >3,12,000 liters water storage capacity with 312 poly tanks of 10,000 litre each in 8 hamlets. It is also helpful to reduce the drudgery of women/girl and to support drinking water availability, irrigation, vegetable production etc. It is a concept of providing water security by creating a small water reservoir near the house of every villager.

WEB OF WATER TANKS MODEL

Selection of water-stressed area/ Village

Collective awareness and integration of villagers

Mapping of rural geography and settlement conditions of houses

- Selection of nearby water resources/springs and analysis of capabilities
- Focus on Perrenial springs

Execution of works of water conservation in the periphery of water sources
(Plantation of saplings, Chaal-Khal, etc.)

Promotion of measures to store rainwater

Construction of 10000 liters capacity Permanent / plastic-lined water near each house
By the end of February

Permanent Vs Plastic-lined Water Tank

Carve of 10,000 liter tank (approximately 10x10x4 feet deep) (Construction Time 2 to 5 days, Covered them by plastic polythene lining and synthetic green covers.

Plastering the walls with 6 to 7 layers of mud and cow dung. This technique, used in the traditional construction of homes and terraces
Ensured a smooth surface on which to lay the polythene tarp.

A concrete tank costing avg. of Rs. 20,000 to 30,000 to build while the price for polythene tarp is Rs 2-3000 which is (1/10) of the initial cost

It is Expensive, vulnerable to cracking and not sufficiently flexible for the region's intermittent seismic acitivity and fluctuating temperatures

Mutual connection of tanks through pipelines from the water source

(average cost of a pipe is Rs. 20,000 to 50,000 for 1,000 to 3,000 meter connection)

Through a gravity-fed plastic piping system, the uppermost tanks are filled directly from the spring, and then these households distribute water to the neighbours below them.

Management and Governed by the Village community