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## **Rural Water Conservation Programmes in Hilly Region of Uttarakhand (India) - An Evaluative Study**

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The whole world is facing the situation of global warming, flood; drought and disaster are some of the most common impact of the global warming. Like other countries in the world India is also facing the same critical situation, increasing population, uncontrolled construction and increasing population are some of the major areas of concerns which has raised an alarming situation. In the current scenario, the state of Uttarakhand is suffering from the problem of water, unusual rainfall, has created a massive problem in India in general and Uttarakhand in particular. Uttarakhand the 27<sup>th</sup> state of the country which was known for its natural beauty, culture and rich natural resources was passing through the same phase of water problem of which whole world is suffering. Water which is a vital resource to all aspect of country survival from its inhabitant's biology to their economy is now is in the stage of extinct.

Depletion of forest, continuous growth of population and flaws in the law are some of the major factors responsible for water scarcity. To overcome the water problem Government of India launched a Number of programmes for water conservation. In the similar context Government of Uttarakhand state in partnership with the rural communities took an initiative and started to plan, design, construct and maintain water supply and sanitation schemes in rural areas so that rural people got potable water and attain health and hygiene benefits because rural people are the worst sufferer of the diseases which occurred due to unclear water and

lack of proper sanitation. In the present paper the researchers try to suggest or conclude how we can cope up with the problems of water by following the methods and techniques adopted by the rural people for their daily needs.

The geographic hardships of the Uttarakhand State have given rise to various traditional methods of water conservation .i.e. Nauley, Dharey, Chal and Khal. In the villages, the sources of natural water is drying very fast to overcome the water problem in rural areas government introduce many programmes for water conservation and sanitation, it is also rejuvenating the traditional old methods of water harvesting to provide drinking water to the people. The government priorities are to provide safe and clean drinking water and to stop the lowering of the underground water level.

The Millennium Development Goal (MDG) regarding ‘Water and Sanitation’ states that by year 2015 “Reduce by half the proportion of people without suitable access to drinking water and basic sanitation. The present paper focus on the traditional methods and progrmmes running in the hilly regions of Uttarakhand state for water conservation.

### **Chal-Khal**

The state receives an average rainfall of 1240 ml. A mere 3 percent of rainwater is required for irrigation, industrial and domestic use in the state. The people in the hilly regions usually stored the water in the artificial lakae for the use of the animals and sometimes for household chores also. The process of storing water in small artificial lakes is called chal-khal in the hilly areas. The important advantage of chal-khal system is that it increases the underground water level and also develops surrounding greenery. The traditional way of storing water not only provide the water to the people as when required but also help them to used the water for agriculture purpose also.

**Source-[www.himvan.com](http://www.himvan.com)**



### **Nauley**

In the hilly regions, rain, rivers or storm drains form the major source of drinking water. A pit just like room was created near the natural source of water so that water stored on that pit which was used by the rural people for drinking purposes. The pit which was created near natural source of water is called Nauley. This is a stable economic method with provide pure drinking water to the rural community. The water was so fresh and cold and it is believed that the water taken from naula help to maintain the good health and developed the immunity system of the body. Rural people preferred to used the water of naula as it is considered as one of the purest form of water and scientifically it has proven now.

**Source-[www.panoramio.com](http://www.panoramio.com)**



### **Uttarakhand Rural Water Supply and Sanitation program**

The main objective of this programme is to provide potable water and basic sanitation to the rural people and to ensure increased role of Panchayati Raj institution (P.R.I.s) and rural community in the preplanning, planning, implementations, operation and maintenance of the schemes as per the 73<sup>rd</sup> amendment of Constitution. The main focus of this program is to provide better water and sanitation facilities through empowerment of Panchayati Raj institution.

### **Rural Sanitation Programme**

There is a direct relationship between water quality, sanitation and health. Consumption of unsafe drinking water, improper disposal of human excreta and poor sanitation are attributed to high infant, mortality rate and incidence of diseases in rural area. It was in this context, the rural sanitation programme launched was by Government of India in 1986 with the objective of improving the quality of life of the rural people and to provide privacy and dignity to women. Later this was converted to the total sanitation for villages campaign and was made

people centered and managed with the cooperation of the people with emphasizes more on information, education and communication, human resource development, capacity development activates to increase awareness demand generation for sanitary facilities. The main focus of this campaign is on motivating people to adopt good hygienic practices and develop an open defecation free environment forever. The main objective of this programme to change mindset of rural people and target at inculcating willingness among rural communities to construct and make use of latrines.

### **Swajaldahara**

Swajaldhara is a community led participatory programme which aims to provide drinking water facilities in rural areas with minimum provision of 40 lpcd. Its involves adaptble approach along with the community participation based on empowerment of villagers to ensure their full participation in the programme through a decision making role in the choice of the drinking water scheme, planning, design, implementation, control of finances and management arrangements and taking of conservation measures through rain water harvesting and ground water recharge systems for sustained drinking water supply. Its has some key components which is implemented at habitation level which includes capacity building, institution building such as village water & sanitation committee as part of the gram panchayat and community participation, water quality control and sustainability of sources. The main objective of the programme is to take up conservation measures through rain water harvesting and ground water recharge systems for sustained drinking water supply.

### **National Rural Drinking Water Quality Monitoring & Surveillance Programme.**

The main objectives of this programme are

- Monitoring & surveillance of all drinking water sources in the state by the community

- Involvement of Gram panchayat for water quality monitoring and surveillance.
- Creating awareness among rural masses about the water quality issues and problems related to water borne diseases by the involvement of PRIs.
- Training of teachers, Health workers and Anganwadi workers at village, block, district level for promotion of water quality monitoring and surveillance.

Water is the key component for survival and to provide safe and potable drinking water to every section of society, government playing an important role in this direction. So many programmes in collaboration with World Bank are running in various parts of the country for water conservation and sanitation. . It is clear from the evaluation of the various programmes and traditional method of water conservation that government is designing and planning as per the requirement of the community. For any program to be successful people's participation whole-heartedly is absolutely necessary, keeping this thing in mind government started the programme involving rural community to design, plan and work so that a positive result may arrive. The challenge before government is therefore is to develop institutions that can offer cost effective solutions to problems of access and availability of water for the rural mountainous regions.

## **References**

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