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Public Participation in Water Conservation : A Case Study of Bhingoli Village from Shirur Anantpal Tehsil, Dist. Latur

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Abstract:

Water is an essential ingredient for life. The availability of water is mainly depends upon amount of precipitation received during monsoon season. Since independence government is taking an effort to resolve the issue of water scarcity in rural areas. Major portion of budget of each state has been allocated and utilized for conservation and supply of clean and safe water for various uses to human being. In spite of these efforts, one third of the population in Maharashtra face drinking water problem. By considering the water scarcity issues faced by the peoples due to minimum precipitation received in monsoon, the government department viz. Agriculture, Water Conservation, Rural Development etc. and some non-governmental organization (NGO) are engaged in carry out water conservation work.

The present paper is an attempt to focus the water conservation work carried out by active participation of villagers from Bhingoli village of Latur district. The study review the role of peoples in initiating the water conservation work with their active participation by sharing financial assistance, outcomes of the work and appreciation received to their work.

Key words: Water, monsoon, NGO, Bhingoli, Maharashtra

Introduction

Water is the most abundant, inexhaustible renewable resource. It covers 70% of the globe in the form of oceans, rivers, lakes, etc. Of this 70%, only 3% is available as freshwater. From this 3%, roughly 2% is frozen in polar icecaps and only a fraction of the remaining 1% is used as drinking water (potable). 90% of the water is utilized for agricultural purposes in India. Water is used for domestic purposes like drinking, bathing, cooking, washing etc. Water is used in commercial establishments like hotels, theaters, educational institutions, offices, etc. Almost 60-70% of fresh water is used for irrigation. 20-30% of water is used for industrial operations by refineries, iron & steel industries, paper and pulp industries, etc. Water plays a key role in sculpting the earth's surface, moderating climate and diluting pollutants.

The increase in demand on water resources created a big gap between availability and demand. After using all available surface water resources to the maximum, human beings began using groundwater to meet their needs. The increased extraction of groundwater far in excess of the natural recharge led to decreased groundwater level. The erratic and inadequate rainfall caused reduction in storage of water in reservoirs. This also led to decrease of groundwater. Building construction activities seal permeable soil zone and reduce the area for percolation of rainwater thereby increasing surface runoff. If groundwater withdrawal rate is higher than recharge rate, sediments in aquifers get compacted resulting in sinking of overlaying land surface. Over-utilization of groundwater in arid and semi-arid regions for agriculture disturbs equilibrium of reservoir in the region causing problems like lowering of water table and decreased pressure in aquifers coupled with changes in speed and direction of water flow. Due to excess use of groundwater near agricultural fields, agricultural water that contains nitrogen as a fertilizer



percolates rapidly and pollutes the groundwater thereby rendering the water unfit for potable use by infants.

With considering the facts regarding the scarcity of water the urge of water conservation practices is increased at alarming rate. In connection with this, Bhingoli village from Shirur Anantpal tehsil has taken an efforts to carry out water conservation method by taking an assistance from voluntary agencies. The present work is an attempt to focus the efforts of villagers as a case study.

The watershed management through soil and water conservation means implies, the judicious use of all the resources i.e. land, water, vegetation in an area for providing an answer to alleviate drought, moderate floods, prevent soil erosion, improve water availability and increase food, fodder, fuel and fiber on sustained basis. Watershed to achieve maximum production with minimum hazard to the natural resources and for the wellbeing of people. The management should be carried out on the watershed basis. The task of watershed management includes the treatment of land by using most suitable biological and engineering measures in such a manner that, the management work must be economic and socially acceptable. If we take steps to encourage each drop of rainfall to penetrate in the ground at the point where it strikes earth, it will result in addition of one drop to our useful water supply and subtraction of one drop from a potential flood. It is the management of each raindrop falling on the ground. This is possible by water and soil conservation techniques adopted in the area as per its topography (Kulkarni *et al.* 2011).

In the world historically throughout the centuries, various forms of water conservation have been used. In scientific term, water conservation refers to collection and storage of rainwater and also other activities aimed at harvesting surface and groundwater, prevention of losses through evaporation and seepage (Tilekar, 2017).

Historical evidence indicates that the communities of India know the technique of constructing tanks as well as were aware of the importance of maintaining them i. e. bavadis. Ancient Indians are known about water conservation. Today there are different methods of water conservation of surface rain water is as follows. 1) Rain water harvesting 2) Ground water recharge 3) Plantation of trees 4) Modern farming method 5) Recycling and reuse of water 6) Legal restrictions of water use 7) Population control 8) Flood management 9) Education through arrange workshop, seminar, field visit etc.

People's participation in watershed management programmes is an important strategy of government of India for making watershed programmes successful. Participation of local beneficiary farmers is mandatory in planning, implementation and maintenance of watershed development projects as per common guidelines issued by Ministry of Agriculture, Government of India (Bagdi & Kurothe, 2014).

About Shirur Anantpal Tehsil

It is a taluka, administrative subdivision, of Latur District in Maharashtra, India. The administrative center for the taluka is the village of Shirur Anantpal. In the year 2011 census there were 43 panchayat villages in Shirur Anantpal Taluka.

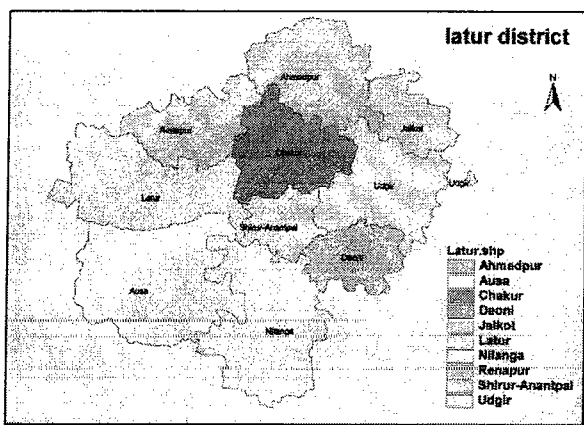
Latur District has some of the most fertile soils in the Marathwada region of Maharashtra. the best deep, black soils in Latur District are to the west of Shirur Anantpal Taluka. Soils in Shirur Anantpal tend toward a medium soil of an inferior type and the taluka suffers from a serious scarcity of water.

Rainfall

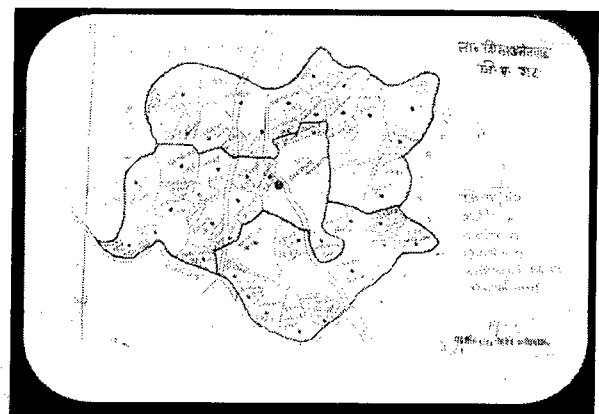
The normal annual rainfall in Shirur Anantpal Taluka is only about 650 mm. This taluka is one of the worst affected during drought periods. The annual rainfall for 2007 was 398 mm in Shirur Anantpal Taluka, compared to 810 mm that year in Latur Taluka. Only 5% of the successful bore wells drilled in Latur District to relieve that drought were drilled in Shirur Anantpal Taluka.

About Bhingoli village

Bhingoli village is located in Shirur Anantpal Tehsil of Latur district in Maharashtra, India. It is situated 3 km away from sub-district headquarter Shirur-Anantpal. The total geographical area of village is 458.51 hectares. Bhingoli has a total population of 920 peoples. There are about 185 houses in Bhingoli village.



Map of Latur District



Map of Villages in Shirur Anantpal

Water Conservation Work in Bhingoli

Due to meager rainfall since last three successive years (i.e. monsoon of 2014, 2015 and 2016), the villagers faced a serious problem of water scarcity for drinking and agricultural use. The peoples from Bhingoli were made discussion at village level regarding the issue of water scarcity and came to conclusion that they have to cope with this issue by taking active participation in water conservation movement. As the village was not enlisted in 'Jalyukt Shiwar' scheme of Maharashtra Government, the villagers decided to take a help from 'NAAM Foundation' to initiate the water conservation work. Initially the peoples are reluctant to contribute for the work but after consultation with the experts from NGO they were agreed for it.

The water conservation work started in the month of May 2016. It includes the straightening and widening of 'Odha' (Small Nala) by excavation work using JCB and tractors. The excavation work consist a straightening of 3.5 Km Nala width 20 to 25 feet and depth is about 3 to 4 meter. NAAM foundation provided a machinery for the excavation work and Parle Company from Mumbai has provided a financial assistance for fuel. From village 32 farmers shared their contribution in the form Rs. 15871. Total amount spent on work from village was about 130811. The work continues for 25 days in the month of May 2016.

Outcome of the work

The work has shown significant impact on the water storage capacity of Nala and help to up lift the groundwater level. The farmers from the village are satisfied due to availability of water for Rabi season crops. The present work has been monitored by officials of NAAM Foundation. With

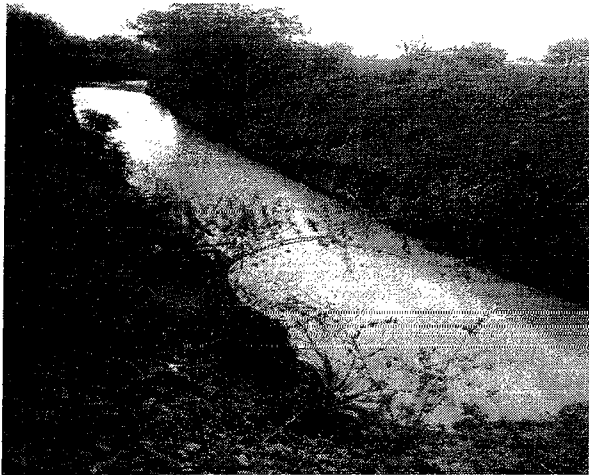


considering the role and active participation of villagers along with significant outcomes of the work the leading news channel of Maharashtra ABP Maza given appreciation to Bhingoli village for their outstanding contribution to resolve the water scarcity issue at village level.

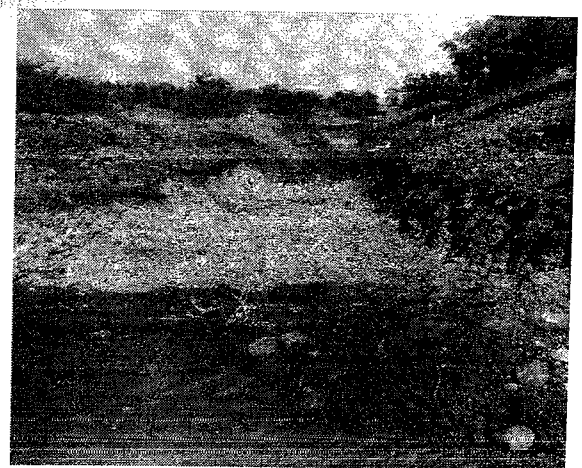
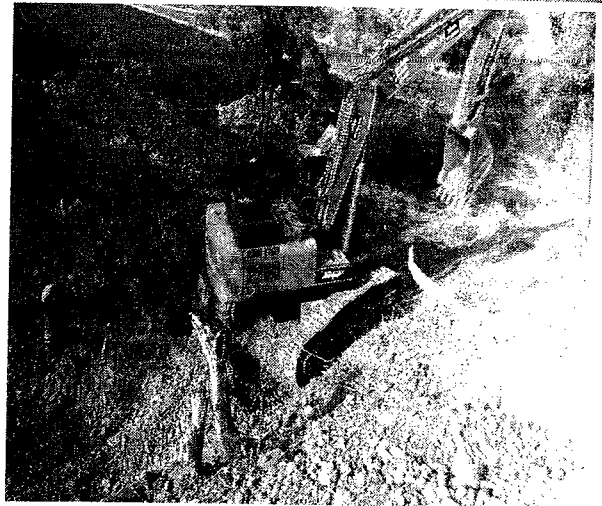
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- DOLR: Department of Land Resource (<http://dolr.nic.in/dolr/guide>).
- Water : <https://en.wikipedia.org/wiki/Water>





Photographs of Significant impact of water conservation work & Appreciation received to work



Representative Photographs of Water Conservation Work at Bhingoli village