

## Background:

Maharashtra has a history of very innovative and some of the pioneering examples of community managed irrigation systems. Phad system of irrigation, Pani Panchayat Movement, Ralegaon Siddhi, Hivre Bazar are some of the prominent examples of successful community based irrigation management. Latest addition to this list is Wagad Project located in Nasik District. This is one of the largest and very successful examples of Participatory Irrigation Management in the country. Maharashtra, especially Western Maharashtra has a big network of large and medium irrigation projects but most of them are not working efficiently and have never achieved their irrigation potential due to various reasons. Farmers in the tail end of the canal are the main sufferers in this whole scenario. Farmers in Waghad project have overcome these challenges and are successfully managing the entire Waghad dam project themselves.

## Waghad Prakalp

Waghad dam was constructed in Dindori taluka of Nasik district in 1984-85. It is an earthen dam with masonry spillway. The maximum height of the dam wall is 47 m. and the total live storage capacity of the dam is 72.20 M. Cum (2550 MCFT). Two canals are constructed on this dam to provide water for irrigation. The two irrigation canals in this dam, right bank and left bank canal, are 45 km and 15 km respectively. The total cultivable command area is 9642 Hectare while total irrigable command area is 6750 Hectare. After its completion the dam could irrigate a



small proportion of its actual irrigation potential and in the mid 80's dam was irrigating only about 30-35 Hectare land near the head area of the canals. The farmers in the tail area were not receiving any water. Mr. Babu Upadhye of Samaj Parivartan Kendra organized the local farmers and mobilized them to come together and fight for their water quota. They formed a Water User Association (WUA) of tail end farmers of the canal under a circular issued by Ministry of Water Resources, Government of India, emphasizing the need for collective efforts by farmers for water management. The farmers made an agreement with the government on Rs. 100 stamp paper about assured water allotment. Since it is an 8 month system, the farmers are assured of water in kharif and Rabi only. WUA decided that farmers will get water twice or thrice in Kharif and four times in Rabi season. After this, if some water is available in the dam, then it will be used for summer crops. This had led to establish the faith among the farmers and soon the farmers formed three water user associations, Banganga, Yogeshwar and Mahatma Phule in the tail end villages. Samaj Parivartan Kendra continued the farmers' mobilization and formed 24 WUAs in both canals and brought the whole command area of dam under WUAs network. Soon after, all WUAs were federated and on 1<sup>st</sup> November, 2003 management of Waghad Dam dam was transferred to

the WUAs Federation. At present 15000 farmers are member of 24 WUAs and are irrigating 10000 hectare land.

### Scale of the project

The uniqueness of the project lies in the scale of the project. This project is implemented in 19 villages of two taluka's of Nasik district. There are 715 water user groups which are using water from Waghad dam. All these groups are associated with 24 water user associations which constitute a Water user Federation. Approximately 15000 farmers are member of this federation and total 10000 hectare land is irrigated under this system. Federation ensures that tail end farmer also get timely and sufficient quantity of water. This is perhaps the only example of Participatory Irrigation Management in the country which is successfully operating at such a large scale.

### Monitoring System

Waghad management has built new philosophy among the farmers i.e. water has a value, and it has to be utilized judiciously and for that its distribution and use needs a close monitoring. A detail water monitoring system is developed wherein the water is released through the canal, minor channels and field channels to the individual farms. The water level in the dam is monitored and based on the available live stock of water the crop and other distribution details are finalized. At every step there are water measuring devices installed and released water is measured and monitored closely. At the field level the water is measured through Gauge scale (photo) or 'V' notch and based on this the water tax is measured. Similarly, the water level in the wells is monitored every month to understand the canals contribution in well recharge.



### Returns to the Govt. and Farmers

The first and foremost important principle of Wagad Prakalp is "***Irrigation on the basis of water availability and not the land availability***". Water is measured and on the basis of use of water every farmer is charged with water tax. The water user association decides the rate for water use and each and every farmer pays accordingly. Water is charged on hourly basis. Presently each farmer is getting water for 5 hours for 1 Ha of his land. In Rabi season the water charges are Rs. 50-70/hour. Prior to Federation taking over the charge of Wagad dam, Govt. was getting water tax of about 1.5 lakh per year. Today, federation is paying about 25 – 27 lakh water tax to Govt. from this project every year.

The farmers are also equally benefited from this project and their returns have increased significantly. In the beginning when irrigation department was supplying water to farmers, their average income was

around Rs. 2700/-per Ha. Today because of assured supply of water farmers are using innovative methods in the agriculture and their returns have gone significantly up to Rs. 1.5 -1.75 lakh per Ha. The Number of beneficiaries from the dam has also increased after the dam management is taken over by federation because now the remotest of farmers sitting in the tail end of the canal is getting assured and timely irrigation for its crops.

### Innovations

The project is a grand success today because of the innovative vision of people associated with the project. The first concept that was defined by this project was that **Water has some value**. Once the farmer realizes the economic value of water he automatically starts respecting it and saving it. Although this is surface water project, all aspects of water use including groundwater are considered in the project. The water tax is collected on the basis of water use; be it direct or indirect. The farmers who had wells and were benefitted by increased water level in the wells due to canals were also charged. A proper survey of all wells was done and on the basis of increase in the water level and duration of well water use, the farmer is charged.

Farmer has also realized the importance of structures like percolation tanks and farm ponds. They are making a full use of these structures for recharging their wells. Since this is eight month system, this well water is used in summer for their crops. There are around 1000 wells and bore wells in the command area and almost all these wells are benefitted after the project. Therefore, no new dug wells or bore wells are constructed in the last 15 years.

Every year, on 15<sup>th</sup> October, a review is done of total available water in the dam. On the basis of this farmers do the water budgeting and crop planning for the Rabi season. If the water is available after Rabi season then again a review is done on 28<sup>th</sup> February, for summer crop planning. As the farmers are aware about the fact that each and every drop of water saved will be made available to them in summer, they are using the water more judiciously.

More and more farmers are using drip and sprinklers in their farms. Almost 300 Ha of land is under grapes which are totally irrigated by drip. Farmers are increasingly growing vegetables, soya bean, wheat through drip and sprinkler.

Farmers are also keeping their field channels clean and free of garbage since it affects the efficiency of irrigation and are savings huge quantity of water.

म.ज्या. फुल, जय...  
पाणीवापर संस्था  
ओझर (मिग), ता.निफाड, जि.नाशिक  
संस्थांची स्थापना जून ९०

	८/३/१९९९	८/३/१९९९	८/३/१९९९
नोंदणी दि.			
(सहकार खाते)			
नोंदणी	NSK/PID/W/M/19/	NSK/PID/W/M/20/	NSK/PID/W/M/13/
(जलसंपदा विभाग)	06/07, 14.8.2006	06/07, 14.8.2006	06/07, 14.8.2006
पारी क्र.	१७ व १८	१८ व १९	सब मायनर ३
पारी लांबी	३.४ कि.मी.	९ कि.मी.	५ कि.मी.
एलुग क्षेत्र	३१२ हे.	६६९ हे.	२२५ हे.
सी.सी.ए.	२५१ हे.	५५७ हे.	१८७ हे.
आय.सी.ए.	१७६ हे.	३९० हे.	११३ हे.
सभासद संख्या	३५४	१००९	५६९
विहीरी	९३	१९०	१५२
विधान विहीरी	१९९	१६९	७१
बंधारे	१० सटवाई ना.	१४ गगन्या ना.	४ के.टी
पाणी कोटा	३८४ क्यु.	५२० क्यु.	बाणमंगा नदी १९५ क्यु.

संस्था स्थापने पूर्वी शेतकऱ्यांचे प्रतिहेक्टर वार्षिक सरासरी उत्पन्न २,८०० रु.  
सन १९९१/९२ ला शेतकऱ्यांचे प्रतिहेक्टर वार्षिक सरासरी उत्पन्न २५,००० रु.  
सन २००७ ला शेतकऱ्यांचे प्रतिहेक्टर वार्षिक सरासरी उत्पन्न १,०९,००० रु.

There is a very well defined procedure to deal with the defaulters. Those who are not paying the water tax or are not following the system of water distribution are punished. Initially, social pressure is built on the defaulter. However, if that doesn't work then the person is fined. Most of the times the problem is solved amicably as the farmers have also realized the importance of the system.

The water committee consists of 9 members including 2 women members. The duration of the committee is of 6 years and after every two years the chairman is re-elected. This gives equal chance and opportunity to every member to lead the committee.

The most important achievement of the project is the implementation of ***Management of Irrigation Systems by the Farmers Act, 2005***, in Maharashtra. This Act has equipped the farmers to come together and manage their irrigation sources through WUAs. It was recognition of the fact that farmers themselves can manage their water resources and was a positive step towards Participatory Irrigation Management. Waghad project team, along with other like minded organisations has actively campaigned for bringing this Act in Maharashtra. The live successful example of Waghad Project also played very crucial role in passing the above said Act in the state.

### Challenges

As the dam has provided assured water supply, farmers are going for water intensive crops like flowers, sugarcane and orchards. In future, if for a year the dam fails to supply water, there is likely to be overexploitation of groundwater as that will be the only available source. Farmers have made huge investments like construction of poly houses, green houses. In the water crisis situation people will invest in wells and bore wells as most of the farmers are well off and the stakes are high.

