

**Anekant Journal of Humanities and Social Sciences**

A Half Yearly and Peer Reviewed Open Access Print and Online Journal

<http://www.humanitics.org/>**RESEARCH ARTICLE****Vol.VI, Issue-I, February 2023****Title- History of Water Conservation in Baramati Tehsil**

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**Abstract:**

Baramati Tahsil is known as a drought-prone area. In the survey of the year 2001, out of total 117 villages in Baramati 79 villages came under drought-prone area. 22 villages out of 79 benefits from the Nira left canal and the remaining villages are dependent on rainfall. The famine in 19<sup>th</sup> century which occurred in Mumbai, forced the British Government to put famine relief works on their priority list. During that period the construction of Nira Right and Left canals was started and completed. A few years later the dam was built. Also the excavation work was done during the British rule. After Independence, the Khadakvasala dam in Panshet Varsgaon was built and its canals ran through northern Baramati tehsil area. The 57 villages in Baramati tahsil fall between Nira left canal and Khadakvasala canal. They are situated in the hilly region and ground with uneven slope due to which they could not derive much benefit from this canal. These 57 villages are dependent on rainfall. To overcome this difficulty, the implementation of the concept of water-conservation is the only solution. The present paper carries a study of water conservation scenario in Baramati region that could be a base for certain plan of action for water conservation schemes in future.

**Keywords:** Water conservation, percolation tank, Drought and famine

**Study area:**

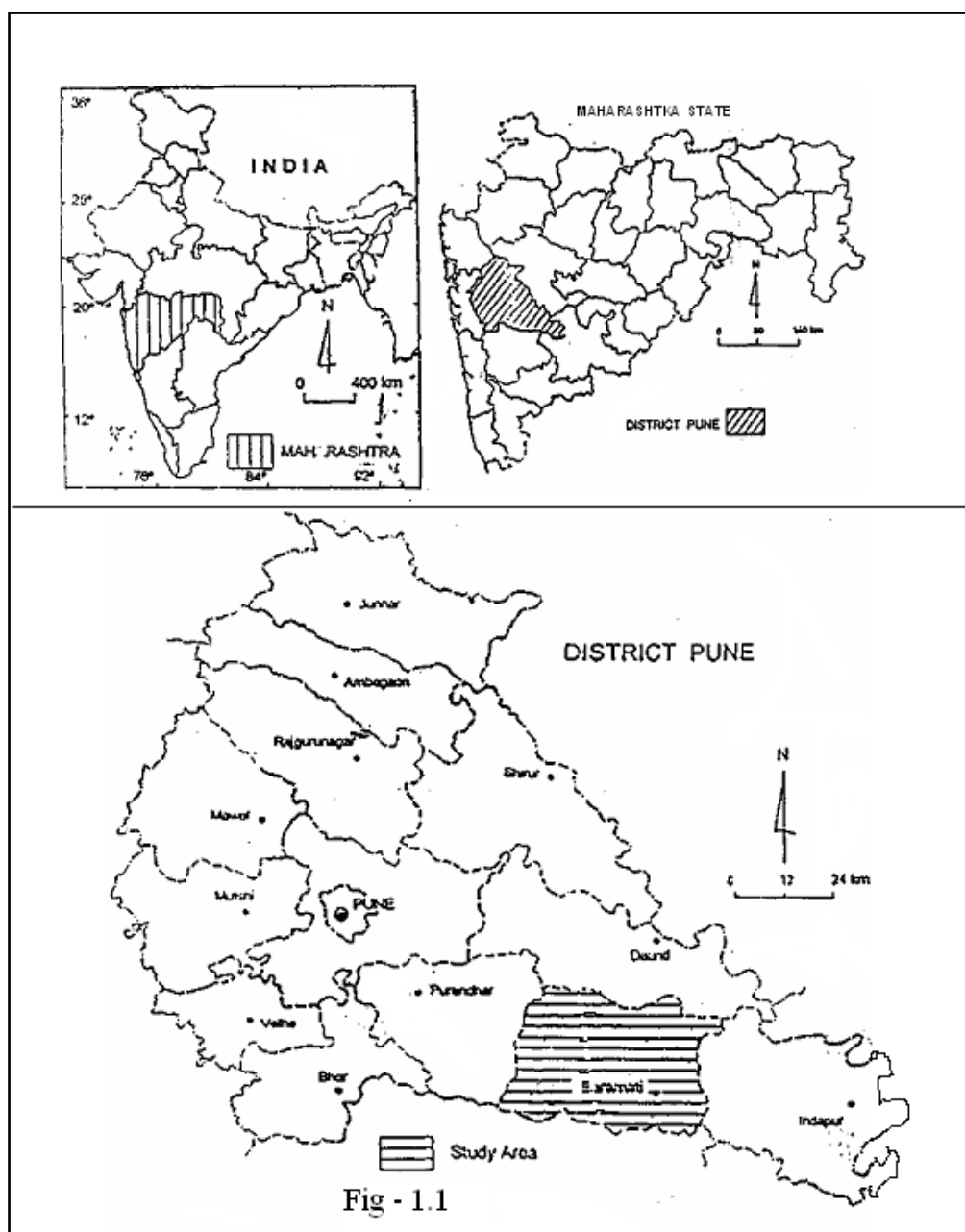
The researcher has selected Baramati tehsil from Pune district for study. The reasons for selection of this region are narrated below.

- 1) It is identified as the drought-prone area and the dry land farming is a unique feature of the region.
- 2) As the researcher is born and brought up in Baramati tehsil, he poses live mental maps of his spatial experience and has a better perception of the study area. In such a region, water conservation is an important factor.

## Location of the study region

Baramati tahsil lies between  $18^{\circ}3'$  to  $18^{\circ}12'$ , north latitudes and  $74^{\circ}13'$  to  $74^{\circ}30'$  east longitudes. It is located at an altitude of 538 meters above mean sea-level. The tehsil lies in the eastern part of Pune district of Maharashtra. The river Nira flows west to east forming the southern boundary of the tehsil and the district. The river Karha flows northwest to south – east.

### LOCATION OF THE STUDY AREA



Baramati tehsil is bounded by Indapur tehsil towards the east, Satara district towards the south, Purandar tehsil towards the west and Daund tehsil towards the north. The area of Baramati tehsil is 1382 sq km.

## Database and Methodology

The present study has been carried out with the help of data collection, compilation, tabulation, computation, analysis and interpretation of the basic data regarding water resource. Various relevant aspects have been collected from secondary sources of information i.e. tehasil office, Agricultural trust Baramati, census handbook of Pune district, socio-economic reviews, district statistical abstract and various published reports. Thus, the present work has been accomplished with the help of descriptive interviews and data collected from officials, supervisors and farmers which are secondary data. The collection, compilation of data, computation, rearrangement of data in tabular form, the analysis of the interpretation of data, comprises both the empirical and theoretical approaches. Various statistical methods have been used for analytical purposes in the present study.

## The concept of percolation tank

During the British period the Nira left canal and Khadakwasla canal were constructed, due to which the agricultural needs of 22 villages out of 65 in Baramati tehsil were fulfilled but the remaining 43 villages, (that is 2/3 area) in Baramati tehsil were still depending on rainfall. This area was known as Supa paragana of 1500 A.D. Owing to severe famine this area remained uncultivated. After 20 years of Independence some improvement in this area was seen. During this period, in the year 1965, the administration planned to solve the problem of water for the rest of 43 villages. But after surveying the total area, the administration came to know that this area is not plain, but it has many undulations due to which water will not flow as expected. Later, the administration thought that the water which was flowing through Nira left canal can be circulated in this area by means of lift irrigation. But it was too costly as it would not abide by the policies of the irrigation department. As everyone knows, in the rainfall period of 2-3 hours the rainwater runs-off and joins streams. Thus, water could be arrested only if stored by certain scientific means. Then a concept of percolation tank came into existence. Wherever it was possible the rain water could be stopped, but this method was highly expensive in solving this problem. Under the leadership of Hon. Mr. Sharad Pawar, the administration sought co-operation of the Christian missionaries. The missionaries distributed food grains, milk powder etc to people of drought-prone area. The administration found that it was not the solution for eradicating their poverty. So the administration asked the missionaries to render help to people for the work they do. The work should include construction of means to conserve and store water. This could be beneficial in solving the problem of water scarcity and famine in future. As an outcome of this, the first percolation tank was constructed in 1968 in Tandulwadi village with less cost and within a short period of time. The Tandulwadi percolation tank was filled with water fully, due to which the water level of surrounding wells was raised. The farmers got full benefit of it and the problem of water scarcity in this area was solved. From then onwards different development plans were introduced in Baramati tehsil due to which the area totally depending upon rain water was now provided with water from percolation tank for the rest of the year. Wherever it was possible to stop rain water in Baramati tehsil it was stopped and percolation tanks were built and the problem of water was solved. Thus, the water level in the wells and tube wells was raised and development in field of agriculture was seen. For the last forty years water conservation work is being carried out in Baramati tehsil and its good results are seen now. Many drought-prone villages in Baramati tehsil are now heading towards green revolution.

Since 1992 watershed development of water-conservation projects have been carried out in drought-prone areas of Baramati tehsil. In a small ratio fruitful result has been achieved. To achieve good results in water-conservation programmes the participation of people is necessary. So only a few villages followed it. Watershed development of water conservation projects in Baramati tehsil are carried out through integration watershed area development programme, Adarsh gaon yojana, Drought-prone area development

programme, Hariyali, National watershed development programme, River area Integration, wasteland development programme and Gramin Rojgar Hami yojana etc. From 1992 to 2008, 57 villages in Baramati tehsil implemented the projects mentioned above. The water problem in many villages is being solved with the help of these programmes. The number of villages which have been provided water through water tankers has been reduced. Soil erosion is being controlled and there is rise in agricultural area, due to which there is increase in employment and agro-based industries are also growing.

### **Drought and famine in Baramati tehsil**

The area having a rainfall of 50 cm or less is known as drought-prone area. It has been observed that in the last few years there has been only 50 percent or 40 percent of rainfall in Baramati tehsil and day by day there is still more decrease in rainfall due to which the possibility of famine is high. After formation of Maharashtra State there were many droughts and famines. Therefore, Maharashtra Government constituted different commissions and committees on drought-prone issue. In various reports about drought-prone area, Baramati tehsil was prominent.

Table-2.1: The reports given by different committees constituted by Maharashtra government are as follows:

Committee	Years	Committee	Years
Pardasini Committee	1960	Thesis of Prof Arunachal	1979
Central Secretary Committee	1971	Shivravan Committee	1981
Second Irrigation Commission	1972	Thesis of Development group	1983
Sukthankar Committee	1973	Dr Swaminathan group	1985
Dr. Minahas group	1973	Inter Divisional group	1985
National agriculture commission	1976	Dr. Subrahamanyam committee	1987

(Source – water conservation problem of Maharashtra)

In 2002 and 2003 there was severe water scarcity. Between 2000 and 2004 there was famine. In August 2008 National Remote Sensing of Hyderabad mentioned some of the drought-prone tehsils in Maharashtra in their report. This report was presented to the central Government and State Agriculture department by NRSA. According to this report there are 88 tehsils which may face severe water problem. An average of less than 60 percent rainfall was observed in this tehsil. The report includes six tehsils from Pune district in which Baramati, Ambegaon, Shirur, Daund, Purander, Indapur were highlighted.

The reports mentioned above show increase in the drought-prone area of different tehsils of Maharashtra. The report given by the committee to the government includes the following suggestions and advices regarding drought-prone areas:

- 1) The areas with rainfalls between 750 mm to 800 mm should be included in the drought-prone area.
- 2) In the drought-prone area, instead of considering 75 percent a liability 50 percent should be considered for constructing of new irrigation projects. Development and modernization of old projects and protection of irrigation systems should be made available.
- 3) The work of soil and water conservation in drought-prone area should be carried out in watershed area under integrated-water-shed development.
- 4) Depending upon different types of soil the different biotic conditions, engineering work should be carried out.

- 5) Importance should be given to people's education in the development of watershed programme including soil and water conservation work.
- 6) There should be plantation and forestation in the area of minor irrigation projects.
- 7) The flood water (of rain) should be made to flow through canals to recharge ground water table.
- 8) The people should be authorized to set up lift Irrigation and they should be given facilities for drip irrigation.
- 9) One fixed organization should be provided and it should have a complete report of water resource and its use.
- 10) A programme should be devised to study the ground water table scientifically and the area of its availability should be reported. This kind of programme should be facilitated as 2/3 of area of Baramati tehsil falls in drought-prone area.

It is mentioned in the report that the area suffering from water shortage should be given priority. Most of the available water is used in the sugarcane fields. Most of the area in Baramati is under cultivation of sugarcane due to which a large quantity of water is used. This excess water should be diverted to dry land. The farmer continuously grows sugarcane every year without growing other crops. If this agricultural area is provided to poor farmers or to those who have no agricultural area to cultivate, they will develop their land with a small quantity of water and without wasting any water. This will result in an equal amount of water being shared by all farmers. In this way, drought-prone area development programme will prove to be effective. Watershed management programme is the only way to remove famine from Baramati tehsil. Owing to the implementation of water conservation programme in Baramati tehsil, by the people and the State Agricultural department, the drought-prone villages in Baramati tehsil are heading towards agricultural development.

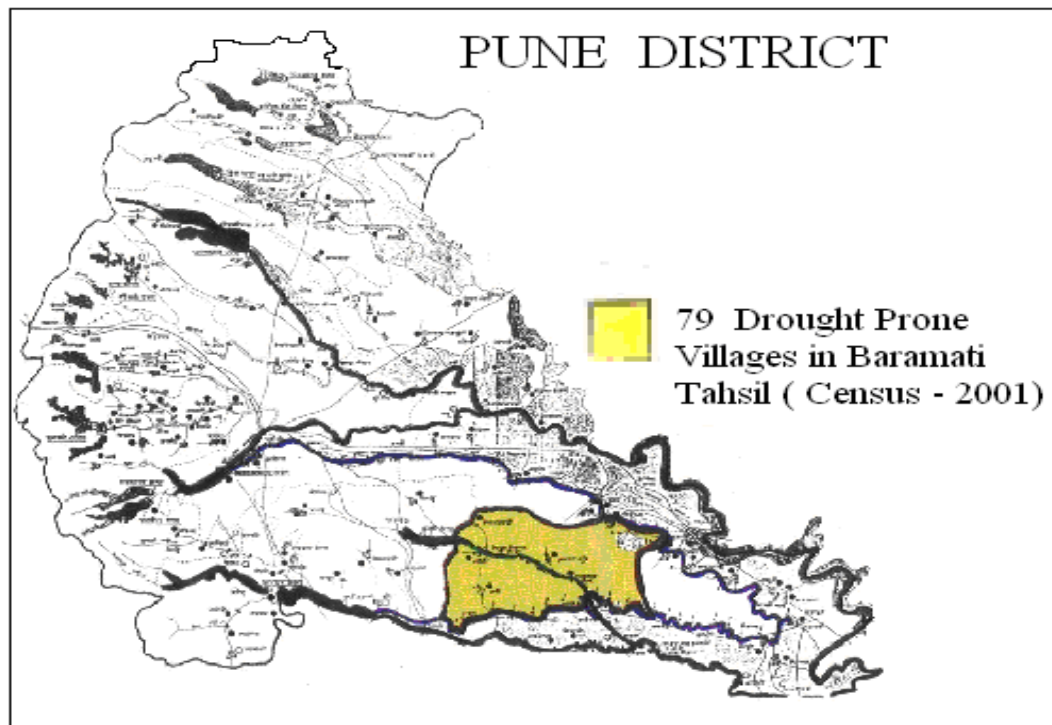


Fig- 1.2



## Water conservation by State Government

211 Lakh hectares area is available for agriculture in Maharashtra. Out of this 179.10 lakh hectares form the crop area. Therefore, this watershed development concept is considered as one of the measures for stopping, percolating and increasing the ground water level as well as decreasing the soil erosion of this area. There are two important conditions to be fulfilled to create the watershed region. The streams were joined in one channel and allowed to flow naturally, which is known as watershed. Every drop of water is precious and to save it, Maharashtra government established the Water Conservation Department in August 1992. The villages are considered as the main target for development work depending on watershed. For which water conservation programmes started with soil conservation, social forestry, as well as minor Irrigation department and an independent water conservation department were started to look after them. In Maharashtra different water conservation projects have been carried out, such as centrally recognized national watershed development programme, River valley project, Western Ghats development programme, Drought-prone area development programme, Irrigated wasteland development programme, Hariyalli, State government recognized Integrated watershed development programme, Adarsh gaon yojana, Vidharbha watershed development mission, Marathwada watershed development mission and Dynamic watershed development programme etc. Some objectives are outlined to carry out water conservation work in state.

### Objectives are as follows

Cropping pattern depends upon availability of water. When village-level survey was made for the protection of water, some attempts were made for creating awareness among people regarding ground level water. Water conservation programme was carried out, and with the help of satellite photograph, geology technology, the state of water on the earth was studied. In Baramati tehsil, with the help of Maharashtra government, integrated watershed development programme was started in 1992. Every year Baramati tehsil face new challenges due to low availability of water and failure of monsoon. When we made a survey of Baramati tehsil in the last ten years, we came to know that three years out of eight years were hit. For two years there was an excess of rainfall. In Baramati tehsil 57 villages are always known as drought-prone area. The programme is as follows:

**Table-2.2: Water Conservation in Baramati Tehsil**

Irrigated watershed area	278 C.C.M.T
Working watershed area	232 C. C. M.T
Different works carried out under the scheme noted above	
1) Continuous contour trench	1327.89 hectares
2) Compartment Bunding	3952.20 hectares
3) Contour line	8835.00 hectares
4) Loose boulder	Number 191
5) Earthen Structure	Number 45
6) Underground Bunding	Number 145
7) Agriculture tank	Number 1955
8) Cement Nala Bunding	Number 48

(Source – Agriculture Section of Baramati Teshil)

In these villages total watershed area is 278 C.C.M. T. Out of this 232 C. C. M. T. work is carried out in Baramati tehsil under watershed area. This work includes central continuous trench of 1327.89 hectares,

compartment bounding 3952.20 hectares, contour line 8835 hectares, loose boulder 191 hectares, earthen structure 45 hectares, underground bounding 145 hectares, agriculture tank 1955 and cement Nala bounding 48. Different works in villages in drought-prone area of Baramati tehsil are carried out under the watershed development programme with the help of Maharashtra Government, due to which ground water level has increased. The water resources have increased leading to agricultural development in this area.

### References

- Adhikari, C. S. "Rural Water supply, a case study," *Yojana* 33 (10), June 1989, Pp. 31- 40.
- Alagh, Yoginder, K. "Water and sustainable development," *Yojana*, 41(8), August 1997, Pp. 26-29, 49.
- Chitale, M.A. "Water management in drought- prone areas," *Bhagirath*. 33(4), October 1986, Pp. 161- 8.
- Desai, Bharat,. *Water pollution in India: law and enforcement*. New Delhi: Lancers, 1990. Pp. 282.
- Dhawan, B. D. *Economics of ground water irrigation in hard rock regions with special reference to Maharashtra state*. New Delhi: Agricole, 1986, Pp. 101.
- Dhawan, B. D. *Studies in irrigation and water management*. New Delhi: Commonwealth, Pp. 255.
- Kumar, M. Dinesh. (2000). *Water management problems and challenges in India: an analytical review*. Gujarat: IRMA, 1989, Pp. 32.
- Mamoria C.B. *Geography of India*. Shivatala Agarwala and company, Educational Publisher: First Edition, 1975.