



A STUDY ON IMPACT OF WATERSHED PROGRAMME IN KHATAV TALUKA IN SATARA DISTRICT

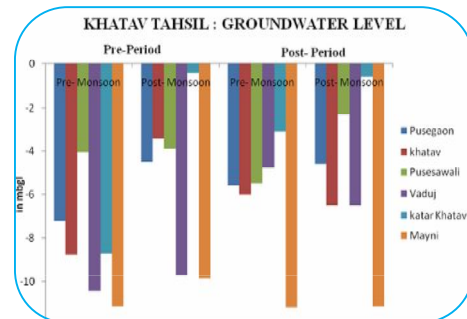
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ABSTRACT:

Agriculture is the backbone of Indian economy. Even today almost 52% of the country's population still depends on this sector for their livelihood. But cultivation in agriculture mainly depends on rainfall. So provision of irrigation along with watershed programmes has become important for improving agricultural productivity.

KEYWORDS: Watershed Programme, Indian Economy, Agricultural Productivity.



INTRODUCTION :

This The Government of India announced watershed project particularly based on model of Ralegan Siddhi in Ahmednagar district by inviting noted social activist Anna Hazare. These are called percolation tanks in dry land area.

MEANING OF WATERSHED

First we decide the purpose and then what quantity of water one wants to preserve. There should be steady sources of water to fill in this Watershed (Shet Tale). One can either harvest rain water or pump water from a seasonal water stream or bore/well. To use rain as source of water, make sure we understand catchment area, average rainfall in the area, type of soil, waterflow etc.

It can be covered with plastic sheet (silpolin). The Maharashtra government recently started subsidy for plastic sheet as well. If we carry out fish farming, it is better not to use sheet. If sheet is used make sure there are no rodents, crabs in nearby area as they usually chew the sheet.

The location of watershed (Shet Tale) has to be approved by agricultural department. You can make one at lowest ground level in your plot or at highest ground level and use siphon method to use water from it.

There are standard sizes prescribed by govt. You need to make one of these sizes. Most recommended height is 3 meter of which half can be dug below ground level and other half by making soil mound at the periphery.

The watershed is ridge of land that separates water flowing to different rivers. Percolation tanks are short dams in dry land area that help in improving the ground water level. Such watershed projects have been implemented in Khatav Taluka of Satara district in Maharashtra.

According to Padmanabhan "Watershed is a natural hydrologic entity that covers a specific area of land surface on which the rainfall runoff flows to a defined Drain, Channel, Stream or River at any

particular point. It has its own natural drainage system and responds more effectively to the various management techniques to maximize production.

NEED OF WATERSHED

The untimely or scanty rain caused the famine in 2014-15. Besides the agricultural income was lowest from the past three years. In 2014-15 crops were spoilt and some areas remained uncultivated in Khatav Taluka. The farmers and the agricultural labours suffered on account of the famine. The famine also shocked the other classes of the society. There was shortage of the Pomegranate, Grapes, and other crops and animals foods in Khatav. As a result there was a wide-spread unemployment in agricultural and allied sector.

Growing population, irrigation and bore well are manmade reasons for increasing the intensity of the famine. The water supply was by tankers to villages and wades in Khatav. Money was spent on water supply. 25 Cattle food camps were set up for 30000 cattle on which two crore rupees were spent. Water literacy was necessity of the time and watershed development (Percolation Tank) was an effective remedy for overcoming the famine. The watershed development brought water revolution in the entire taluka.

Slogans such as "Water is life, its planning is necessary," "Prevent Water & Shed it" became popular in the region.

OBJECTIVES

1. To study the extent of watershed project in the selected area.
2. To examine the benefits of watershed project for different crops.
3. To study impact on agricultural productivity.
4. To study impact of Economic and Social condition of the beneficiaries.

RESEARCH METHODOLOGY

[i] Sample Design:-

The present study covers eighty watersheds (Shet Tale) viz. Khatav, Kuruli, Warud, Dahwadi, Pingli, Dighanchi, Katav, Khatav, Mayni, Waduj, Fadtarewadi, Nidal, Bhurkavdi, Kulkudwad, Gondwale, Pusegon, Nidhal, Mardi etc. A sample of 80 respondents are covered in the study. Stratified random sampling methods is used to select respondents.

[ii] Data Collection

The study is mainly depending on primary as well as secondary data. Primary data is collected through questionnaires, interviews of beneficiaries on the basis stratified random sampling method. Secondary data is collected from Govt, of Maharashtra documents, published papers and the government's website.

[iii] Data Processing

The collected data is tabulated in MS- excel. Using the programme in the package tables and graphs are prepared for the questions. Based on table and graphs, analysis and explanation is presented to understand the opinion of farmers regarding the impact of watershed programme in the taluka.

DATA ANALYSIS

The present study is an analysis of impact of watershed development programmes on agriculture, economic and social in Khatav Taluka. In the study area, 80 farmers are selected out of 600 who constructed watershed for studying the impact analysis.

Table No.1 : Expenditure of Watershed

Sr. No.	Exp. of Watershed	Frequency	Percentages
1	Less than 25000 Rs.	08	10.00
2	25000 to 50000 Rs.	38	47.05
3	50000 to 75000 Rs.	03	03.75
4	Above 75000 Rs.	31	38.75
	Total	80	100

There are three types of watershed projects i.e. small medium and big. For construction every watershed requires different amount. So in order to know the how much amount was spent for each watershed project the question was asked. The data obtained from survey is tabulated in table no. 1.

Table no. 1 shows that out of 80 watershed projects. 8 watersheds required less than 25,000 rupees each for their development, 38 watersheds required 25,000 to 50,000 rupees to 75,000 rupees each while 31 watersheds requires more than 75000 rupees each for the construction.

From the above information it is clear that total number of farmers is more in number who spent 50,000 per watershed and it constitute 47.05% of the total sample. Moreover total expenditure for each watershed goes behind 50,000 constitute 3%. Here it shows that, small and medium watershed is more in number compared to the big one. This is due to the economic condition and restriction of land utilization of the farmers.

Table No. 2 : Availability of Water in Watershed

Sr. No.	Availability of Water in W.S.	Frequency	Percentage
1	1 to 4 Months	55	68.75
2	4 to 8 Months	21	26.25
3	8 to 12 Months	04	05.00
	Total	80	100

Irrigation of land is possible only when water is available in watershed. The water level of the watershed declines due to evaporation and percolation process. So in order to know the availability of water in watershed question was asked. The information obtained from farmers is tabulated in table No.2.

Table No.2 shows that out of 80 respondents, 55 said water is present up to 4 months. 21 said water is up to 4 to 8 months, and 4 said water is present for all 12 months. The above analysis shows water for most of the watersheds is available for less than 4 months.

Table No. 3 :Increase of specific crops production after watershedCrops

Sr.No.	Crops	Frequency	Percentage
1.	Jawar(ton)	10	12.5
2.	Bajara(ton)	06	7.5
3.	Wheat(ton)	04	5.0
4.	Pomegranate (ton)	60	75.0
	Total	80	100.0

Farmers in Khatav taluka are planting various types of crops. So water stored is used for these crops. In order to know which crop gives comparatively more production due to watershed water question was asked. The information obtained is tabulated in table no 3.

Table no.3 shows that increase in production of Jawar is observed for 75% respondent, Bajara increased for 7.5% respondents and Wheat for 5%.

The above analysis shows that more increase in production is observed in pomegranate while wheat, Jawar and Bajara had less increase.The main reason behind this is suitable weather and use of drip irrigation.

Table No. 4: Impact on Underground Water

Sr. No.	Response	Frequency	Percentage
1	Yes	28	35
2	No	52	65
	Total	80	100

Underground water level increases by storing water in watershed through percolation process. So to take the opinion of the farmers about the increase in water level due to watershed in their farm, question was asked to the respondents. The information obtained is tabulated in table no.4.

Table no 4 shows that out of 80, 28 farmers have noted increase in underground water level and it constitutes about 35% of the sample. While 52 farmers did not observe increase in underground water level which constitute 65% of the sample.

The above analysis shows that watershed project has not succeeded to some extent to increase the underground water level. The reason behind this is inadequate rainfall in Khatav taluka. So little water is stored in limited period.

FINDINGS

From the above information it is clear that total number of farmers is more in number who spent 50,000 per watershed and it constitute 47.05% of the total sample. Moreover total expenditure for each watershed goes behind 50,000 constitute 3%. Here it shows that, small and medium watershed is more in number compared to the big one. This is due to the economic condition and restriction of land utilization of the farmers.

The implementation of watershed development programme shows that the water storage is between 1-4 months is most of the project as revealed by opinion of the respondents.

This study also shows that more increase in production is observed in pomegranate compared to wheat, Jawar and Bajara due to watershed programme. The main reason behind this is suitable weather and use of drip irrigation.

The study shows that watershed project has not succeeded to increase the underground water level. The reason behind this is inadequate rainfall in Khatav taluka.

CONCLUSION

1. Most of the farmers had constructed medium or small watersheds. The reason for selecting the smaller project is the small land holding and poor economic condition.
2. Only 1 to 4 months water containing watersheds are more in number.
3. More increase in crop production is observed in pomegranate compared to other crops.
4. Watershed project has failed to some extent to increase the underground water level in the study area.

SUGGESTIONS

1. Use of water is to be rationalized. Every farmer should be compelled to use drip irrigation.
2. The farmers should be trained in crop rotation method and long term crop planning on their lands.
3. Water literacy among the people need to be spread more widely for reducing the intensity of problem of water for human, animal and agriculture.
4. The idea of rain water harvesting need to be forcefully promoted for recharging underground aquifers.

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