



AN ASSESSMENT AS A NEED OF IRRIGATION IN NANDURBAR DISTRICT (M.S.)

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Abstract

A reliable and suitable irrigation can improve agricultural production and irrigation efficiency. Irrigation is basically an agriculture operation, supplying the need of water for plants. Irrigation has played an important role in transforming the crop cultivation and better yield. There are various types of irrigation such as well, rivers, tanks, canals etc. but these are additional factors such as their location, their typography geological aspects and height hilled area depending on various elements. There are imbalances in irrigation development in Nandurbar district. The main objectives of the study area were to show the need of irrigation in Nandurbar district and analysis the regional disparities in need of irrigation in study region. The study area included six tehsils of Nandurbar district viz. Akkalkuwa, Dhadgaon, Taloda, Shahada, Nandurbar and Nawapur.

Keywords

Traditional Agriculture, Agriculture Productivity, Rainfall Inadequacy, Co-efficient of Index.

Introduction

Irrigation has played an important role in transforming the crop cultivation and better yield. A reliable and suitable irrigation can improved agricultural production and irrigation efficiency. Irrigation constitutes one of the most effective technical means of the raising agricultural production in the developing countries. Mechanical source of power has considerably increased the efficiency of water pumping and have extended the use of irrigation by making. Irrigation is essential for successful agriculture particularly in the area, where rainfall is inadequate, uncertain, and unpredictable. Irrigation is necessary in traditional agriculture to overcome droughts scarcity of rainfall.

Objectives

To show the need of irrigation in Nandurbar District and analysis the regional disparities in need of irrigation in study region.

Data base (Collection) and Methodology

This research paper mainly based on secondary data. The secondary data have been taken from the Director, District Irrigation Department, Dhule, District Agricultural Office, Nandurbar. Socio-Economic review and district statistical abstract of Nandurbar District.

To assess the need of irrigation, following formulae has been adopted.

$$\text{Need of Irrigation} = \frac{\text{Pr} \times \text{Ac}}{\text{R}}$$

Pr = Percentage of rural population in an area / Unit.

Ac = Percentage of Cultivated area in an area of unit

R = Average annual rainfall.

More K. S. And Mustafa R. R. (1984) suggested simple statistical method which is used to compare the need of irrigation in Nandurbar District in present study. The statistical questions are used for analysis.

Study Area

The study area is located in the northwest corner of Maharashtra State in India. The district of Nandurbar came into existence on 1st July 1998 by dividing the district of Dhule. The study area lies on 21o001 to 22o031 North latitude and 73o311 to 74o321 East longitude. The total area of the district 5955 square kms. The mean sea level of district 180 to 215 m. Nandurbar district contribute 1.63percent area of the Maharashtra State. The entire district from the part of Tapi Valley bordered by

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Satpuda on the North boundry of Gujarat State on the West, district of Dhule on the East. Nandurbar district with its headquarter at Nandurbar includes six talukas namely, Akkalkuwa, Dhadgaon, Taloda, Shahdada, Nandurbar, Nawapur.

Irrigation is the most important factor in farming according to the Agricultural Department and Irrigation Officers.

Location Map of Study Area



Fig. 1

A) Need of Irrigation in Nandurbar District :

There are imbalances in need of irrigation in Nandurbar district. The coefficient of need irrigation is divided into three groups.

Table 1 : Need of Irrigation in Nandurbar District.

Sr. No.	Need of Irrigation	Number of Taluka	Name of Taluka
1.	High (Above 10)	02	Dhadgaon Akkalkuwa
2.	Moderate (5to 10)	02	Taloda, Nawapur
3.	Low (Below 5)	02	Nandurbar, Shahada

Source : Compiled by

Researcher:

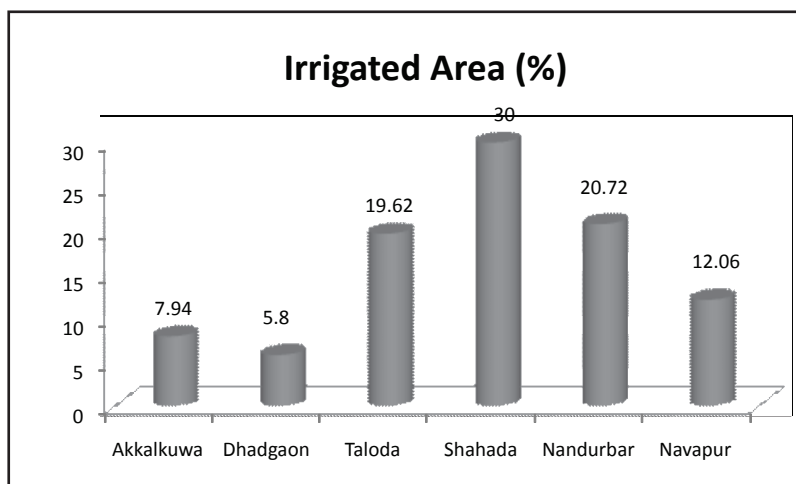
- 1) **High Need of Irrigation :** The value of taluka above 10 is called high need of irrigation in study region. The two talukas of study region are required high need of irrigation. These talukas are Dhadgaon and Akkalkuwa. It is suggested that the natural environment are unfavourable for agriculture which means that it is essential to provide irrigation facilities for better agriculture.
- 2) **Moderate Need of Irrigation :** The moderate need of irrigation is observed in two talukas i.e. Taloda and Navapur. The average rainfall in Taloda and Navapur is low but the agriculture area is low due to huge fallow land compare to other talukas of district.
- 3) **Low need of Irrigation :** The low need of irrigation is observed in Nandurbar and Shahada. The district head quarter Nandurbar is located in this taluka and dams also situated in Shahada Taluka named as Prakasha Barriage, That's why the need of Irrigation is low according to this formula.
- A) **Actual Irrigation area in Nandurbar District :**
 These are imbalances in irrigation development in Nandurbar district. They are natural as well as coated imbalance. The natural imbalances are caused due to the relative advantage and disadvantages of regions with respect to irrigation sources. These natural differences in regions can described as regional disparities. The high irrigated area is observed in Shahada taluka (30 percent) and lowest area is Dhadgaon (5.80 percent).

The specified pattern of irrigation is shown in following table.

Table 2 : Percentage of Irrigated Area in Nandurbar District

	Taluka	Irrigated Area (Percent)
1.	Akkalkuwa	7.94
2.	Dhadgaon	5.80
3.	Taloda	19.62
4.	Shahada	30.00
5.	Nandurbar	20.72
6.	Navapur	12.06

Source : Compiled by Researcher



Nandurbar District.

Irrigated Area	No. Of Taluka	Name of Taluka
High (More than 20)	2	Nandurbar, Shahada
Moderate (10 to 20)	2	Taloda, Navapur
Low (Less than 10)	2	Dhadgaon, Akkalkuwa

- 1) High Irrigated Area : The proportion of high intensity of irrigation is observed in Shahada taluka (30 percent) where canal and well irrigation has been developed during the last two decades. This has been followed by Nandurbar (20.72 percent) Tapi river lies in their area, also Prakasha Barrage built on this area.
- 2) Moderate Irrigated Area : Moderate Irrigation intensity is observed in Taloda (19.62percent) and Navapur (12.06percent) taluka. These talukas have also availability of water from either canals or wells for irrigation purpose.
- 3) Low Irrigated Area : The intensity of irrigation is low in Akkalkuwa (7.94percent) and Dhadgaon (5.80percent) taluka. This area is mostly covered by hilly region.

Conclusion

· The proportion of high intensity of irrigation is observed in Shahada Taluka (30percent) and Nandurbar (20.72) where canal and well irrigation has been developed during the last two decades. Moderate irrigation intensity is observed in Taloda (19.62percent) and Navapur (12.06percent). The intensity of irrigation is very low in hilly region Akkalkuwa (7.94percent) and Dhadgaon (5.80percent).

· Two talukas of study region need more of irrigation. These talukas are Dhadgaon and Akkalkuwa. Also moderate need of irrigation is observed in two talukas i.e. Taloda and Navapur taluka and Finally there is some barrage like Prakasha barrage so low need of irrigation required in Shahada and Nandurbar taluka.

· Low Need of irrigation and high intensity of irrigation seen in Shahada and Nandurbar district. Moderate need of irrigation and moderate intensity of irrigation found in two talukas namely Taloda and Navapur taluka and finally high need of irrigation and low intensity of irrigation observed in Dhadgaon and Akkalkuwa taluka.

Findings and Suggestions :

This paper analyse the high need of irrigation in study area in two taluka. It is also observed that the actual low irrigation area is observed in two talukas. So it is necessary to achieve the growth of irrigation is the district. Some suggestions have to be suggested individual, institutional and administrative level.

Give incentives to proper propaganda of irrigation management.

To achieve innovative technology and methods of water management some research work carried out.

Projects should be planned at micro level as poor peasant will be the major beneficiaries.

Watershed development program should be scientifically planned.

Drip irrigation, sprinkler irrigation should be adopted by the people.

Rain harvesting is essential measure in drought prone areas.

Repairing of canals to avoid seepage essential.

People participation should be give vital importance.

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The fund can rise through strong co-operative sector of the district.
Administration should take care of completion of uncompleted projects in the district.
Set local level committees to look after the progression of small project in the area. Such committees should be co-ordinate with CEO and collectorate of the district.

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