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Effect of Irrigation on Crop Productivity in the Parbhani District

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Abstract :

The Present research paper is to analyze the impact of irrigation sources on agricultural productivity in Parbhani district during the year of 2016-17. This study is based on secondary data which is collected from secondary records. Agricultural production is influenced by physical, socio-economic, and farmer's attitude. An endeavor is made here to study why the agricultural productivity various in different crops. The data regarding area under different crops has been collected. In this paper also studied to irrigation sources like dam, wells, bores, etc. which is used for agricultural purposes. Also to analyses major crops in study region and its productivity in per hector. Its distributed by two ways first is rained and second one is irrigated area. All these are studied in this research paper.

Keywords : Agricultural productivity, irrigation, crop yield.

Introduction:

Agricultural productivity is becoming increasingly important issue as the world population continues to grow. India one of the world's most populous countries, has taken steps in the past decades to increase its land productivity. Agriculture still forms the backbone of Indian economy. Irrigation sources is important factor for agricultural productivity. After independence the Govt. has provided facilities, schemes for irrigation and its effects on agricultural productivity. The growth rate of production in agricultural must be more than the growth rate of population. Hence there is an urgent need to accelerate agricultural growth to address issues on food scarcity, nutritional adequacy and income generation. So irrigation facility is most important for growth of agricultural productivity.

Study Area : Parbhani district is situated in the central of Maharashtra and lies between 18 45'North to 20 01' North latitudes and 76 13'East to 77 26' East Longitudes. The boundaries attached to the neighboring districts on north by Buldhana and Akola, on east by Hingoli and Nanded, on south Latur and Beed and on west Jalna district. The river Purna runs on the boundaries of Hingoli and Parbhani district and work as attach these two regions. The other River Godavari which runs on the boundaries of Beed and Parbhani forms a part of study region. It runs through Pathri, Sonpeth, Manwat, Gangakhed, Palam and Purna tahsils. The area of study region is 6511 sq. kms, which is 2.11 percent of the total area of the state. The population of the study region is 1491109 (2001 census) which is 2.76 percent of the total population is 229 persons per sq.km. Among the thirty five districts of the state, the district ranks 26th in terms of

population and 18th in terms of density. The region includes 830 inhabited villages and eight urban centers. The study region is administratively subdivided into nine tahsils namely Parbhani, Gangakhed, Palam, Sonpeth, Purna, Pathri, Manwat, Sailu, and Jintur. (Fig no.1)

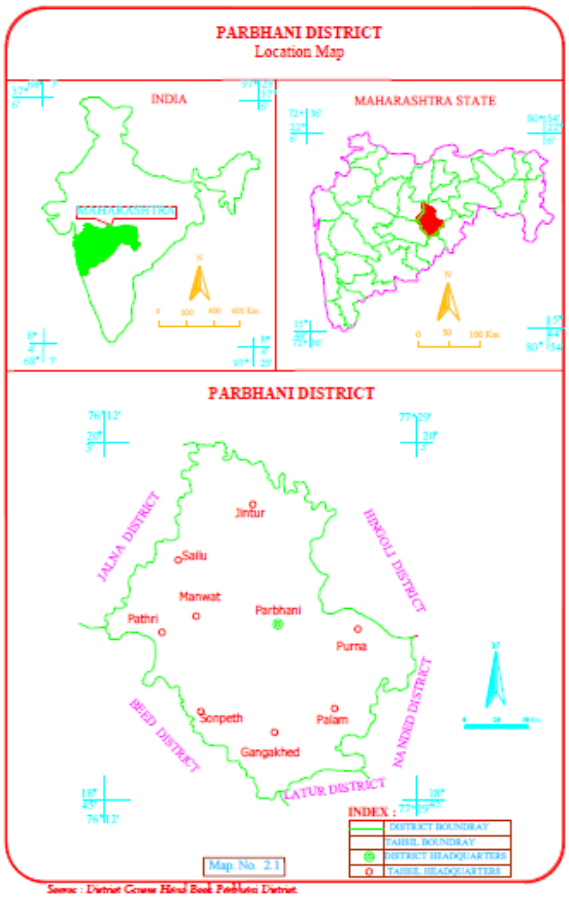

Fig no.1

Objectives :

1. To analyses irrigation facilities in study area.

2. To study the effect of irrigation on crop yield.

Date Base and Methodology*:*

The present paper is based on secondary sources. i.e. district census handbook, socio-economic abstract, etc. suitable statistical techniques are used in the present paper. The period from 1991 to 2011 is selected for observation. The result has been shown with the help of different graphs, tables, and maps.

Sources of Irrigation

Sources of water for irrigation	Area irrigated [HA]	Percentage
Tanks	**6900**	**5.59**
Open Wells	**92106**	**74.66**
TUBE/Bore Wells	**10644**	**8.63**
Lift Irrigation	**13718**	**11.12**
Total	**123368**	**100**

The total source-wise irrigated area of the district is 123368 ha., which is 21.11% of net sown area. Maximum proportion of irrigated area occurs in Gangakhed Tehsil 29633 ha.(24.02%)) while minimum in Sonpeth Tehsil (Table 4.8)). Major source of irrigation in this district is open wells through, which maximum area is irrigated (92106 ha.) followed by Lift Irrigation (Table 4.7). It is well known fact that crop yield increases under irrigated condition. It is possible to take 2 to 3 crops per year on the same piece of land one after another. Hence, it is proposed to increase the irrigated area up to maximum possible limit, as early as possible. Irrigated area can be increased by 50% or so if modern methods of irrigation such as drip or sprinklers are used. It is also suggested that necessary arrangements for improved on farms surface irrigation methods be made

Effect of Irrigation on crop yield

Sr.No.	**Crops**	**Yield in KG**		Percentage increasing in yield
		Rained	**Irrigated**	
1	**Tur**	**764**	**1366**	**78.80**
2	**Groundnut**	**642**	**1098**	**71.03**
3	**Soyabean**	**1286**	**1950**	**51.63**
4	**Cotton**	**240**	**420**	**75.00**
5	**R.Jawar**	**628**	**1020**	**62.42**
6	**Wheat**	**528**	**1160**	**119.70**
7	**Gram**	**559**	**1025**	**83.36**
8	**Maize**	**740**	**1340**	**81.08**
9	**Sunflower**	**480**	**800**	**66.67**
10	**R.Sunflower**	**453**	**706**	**55.85**

Effect of irrigation on each crop yield in the research region:

Soybeans are grown on the majority of the land; their production in rained-on and irrigated areas is 1286 kg/ha and 1950 kg/ha, respectively. 51.63 percent of soyabeans are growing. Wheat is the most affected, with a greatest increase in yield of 119.70%. The average yield increase for all crops is 75%. In an irrigated area, crops that produce a better financial return should be prioritized. For all the crops in the district, there is not enough irrigation water available to cover the entire region. It implies that a limiting input is water. Our goal should be to increase yield per unit of water in this case. It is important to raise awareness among farmers in this area so that they will try to use irrigation water to increase agricultural output and, ultimately, their financial returns. Currently, the majority of farmers favor the sugarcane crop. A hectare of sugarcane takes roughly 1600 mm3 of irrigation water, or 16000 m3. If the same amount of water is utilized for growing chilies, more than 2 ha of area can be irrigated, and if it is used for growing onions, three ha of area may be irrigated, with a significantly higher overall financial return than sugarcane. All farmers participating in training programmes need to have this idea explained to them.

Conclusion :

The present research was carried out in Parbhani district for the evaluation of impact of irrigation on socio-economic condition of people. Where the irrigation facilities are available there is high crop intensity and productivity. Income level is also higher than that of before irrigation facility. The impact of irrigation in this area is directly positive. The current agricultural productivity is positive compared to that of before irrigation in the surveyed household.

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