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<http://www.humanitics.org/>**RESEARCH ARTICLE****Vol. IV, Issue I, August 2021****Title- Study on Irrigation Facilities Among the Small and Marginal
Farmers with Special Reference to Pune District**

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Abstract:

Irrigation is a backbone of the Indian agriculture. The development of irrigation facilities increases its lead to develop the agriculture sector. Agriculture and allied sector contribute nearly eighteen percent of Gross Domestic Product (GDP) of India. In overall Maharashtra tube well and other well irrigation are highly used. In their position sustained the ground water level is very low. The central and state government is encouraging other types of irrigation facilities should be used for agriculture. These irrigation facilities are dams, maintain of canals and tanks and to create awareness of saving rainwater. The government also provides irrigation facilities on subsidies rate to farmers and to complete all unfinished major and minor irrigation projects like dams, canals, and other sources. Hence, the present research paper mainly focused on the facilities of irrigation in Maharashtra and study area of Pune district.

Keywords: Irrigation, Small and Marginal farmers, Agriculture etc.

Introduction:

The history of irrigation in India dates to 1855. Irrigation was the responsibility of the then newly created department of the public works. Taking into consideration the importance attached to the development of irrigation facilities in the country. An inspector general of canal was appointed in 1863. In India the first major irrigation construction was the Ganga Canal in Uttar Pradesh, which was opened in 1854. Several other large irrigation projects were constructed at the end of the 19th and at the beginning of

the 20th century and a few more after the end of the First World War. In India water supplies for irrigation can be classified from three sources. 1) Directly from the water which normally flow in rivers, by diversion canal. 2) Flood water flow in rivers or directly rainfall water from small catchments. 3) From the underground water through wells or tube-wells. Agriculture accounts for 80 percent of water need for farm, and there is a significant scope for increasing its efficiency in agriculture. Generally efficient use of scare resources requires an appropriate pricing. But pricing of water is a sensitive issue in our country. So, irrigation is one of the most important inputs required at different critical stages of farm growth of various crops for optimum production. Based on above discussion on irrigation inputs such as rives, canals and wells / tube-wells, are necessary for the analysis of irrigation inputs in study area.

Objectives:

1. To analyses irrigation facilities in study area.
2. To assessment of an irrigated area and water-use efficiency by the farmers.

Methodology:

The present study is based on the primary as well as secondary data collected from a cross sectional enquiry of the sample farmers. These farmers are categorized in to two size groups of holding viz. 1) Farmers having up to 1 hectare. 2) Farmers having in between 1to 2 hectares. These farmers are respectively called as marginal, small farmers. Total 140 farmers have been selected as sample. In each selected Tahsil, village and farmers the researcher conducted the multi-stage sampling by using convince method. The sampling design of the study area is based on convenience sampling method.

Results and Discussion:

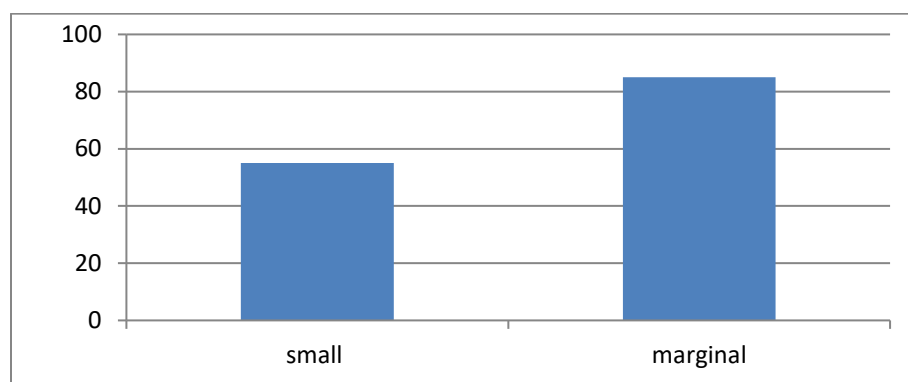
Analysis of data is essential for a systematic study. The study has all appropriate information for making expected comparisons and to depict implications. The collected data of primary and secondary method is classified, tabulated, analyzed, and interpreted.

Size /Types Wise Classification of Farmers:

Number of farmers can be classified in to two categories which small and marginal farmers. The following table no. 1 shows number of farmers of each category.

Table no. 1 Types of identified Farmers

Sr. no	Types of farmers	Frequency	Percentage
1.	Small	55	39.28
2.	Marginal	85	60.71
	Total	140	100



The above table no. 1 shows a selected farmer type for research purpose, i.e., small farmers who holding land more than 1 hecter but less than two hector and Marginal farmers who holding land less than 1 hector. Out of total 140 identified farmers, 55 (39.28 per cent) small farmers and 85 (60.71 per cent) marginal farmers for respondents. It means large number of farmers is selected from marginal category as compared to small farmers.

Irrigation status in Pune district:

Irrigation status is most important in study area. Several rivers and irrigation projects are playing major role in agriculture. Each tahsil of the district has at least one river. Total geographical area is not under irrigation facilities. Most of the land is uncultivated due to lack of irrigation facilities.

Major sources of irrigation:

Several irrigation sources are available in study area. The following table no.2 shows major sources of irrigation in Pune district.

Table no.2 Major sources of irrigation

Sr.no.	Sources of Irrigation	No. of Farmers out of total respondents (140)	Percentage
1.	Tube well	8	5.71
2.	Open well	22	15.71
3.	Canal	60	42.85
4.	Other (river)	50	35.71
	Total	140	100.00

Source: Compiled from primary data

Table no.2 shows that, only (5.71%) farmers are enclosed by tube well irrigation. Most of the farmers are using canal irrigation (42.85%) and other source like river rainfall etc. Remaining area is covered by using proper mixing of tube-well and open well sources. Inefficient irrigation management affects farmers' crop cultivation. Small and marginal farmers have low-income level than the other farmers like medium and the large farmers.

The major source of water supply from irrigation facilities 8 (5.71 per cent) farmers is Tube-well, 22 (15.71 per cent) farmers have the source of Open Well, 60 (42.85 per cent) farmers have the source of Canal and 50(35.71 per cent) farmers said that they have the source of River etc. An overall percentage of the respondents felt that there is less water supply or decrease in the canal water supply that is 64.41 percentages. And is high water supply or increase in the water supply only 35.58 during the study period.

The reasons for the reduction in water supply are the delay in opening the lake is, Natural silt and poor maintenance of canal.

Most important cause is the low rain fall which is 27.01 per cent and the expansion in cultivable area as well and other reason is 6.23 and 4.15 respectively. the open wells and 35.58 per cent of the farmers avail water from the Tube wells, water from tank of the farmers seek 15.6 per cent as well as purchased water from farmers pump sets and rainwater is 5.19 and 3.89 per cent respectively. Canal resource of irrigation is available throughout the year for crop cultivation.

Conclusion:

Irrigation is playing crucial roles in the agricultural activities. It is more helpful and provides many sources of water. Agriculture development is depending upon of irrigation facilities in a country. But large number of facilities is not available all over country and Pune district as well. Co-operation movement playing major role for agriculture development in Maharashtra. Irrigation inputs are highly used in study area, but it's creating water scarcity problem in tube well irrigation and it draws a lot of groundwater. The state governments also encourage by the water policy like *Paani Foundation, Jal Shivar Yojana* etc. it is necessary to implemented irrigation facilities for agriculture development among the small and marginal farmers. Across the proper creation of dams, proper conservation of canals and tanks and to create awareness of saving rainwater for future use and it is helpful to all farmers and agriculture.

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