

“IMPACT OF IRRIGATION PROJECT ON CROPPING PATTERN”

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ABSTRACT

The most important input required for agricultural development is irrigation as it facilitates multiple cropping and increase crop productivity. In fact the irrigation projects have made security of life, they have increased the yield and the value of land and the revenue derived from it. Therefore, irrigation projects are quite essential for the agricultural development of region. The Jangmhatti Irrigation Project is located in Chandgad taluka of Kolhapur District. This project was started on Jan 1981. At present command area of the project is 4457 hectares. Moreover 14 villages have been covered under this project. The project was completed and implemented in June 1995. The main objectives of the study are -to examine the role of irrigation on cropping pattern and land utilization in agriculture as well as to study the impact of Jangamhatti irrigation project on socio - economic status of the farmer in the Chandgad taluka. This study was mainly depends on primary data. Out of total farmers of the village, hundred farmers have been selected and other relevant variables were collected through field work for the year 2018-19. For this purpose scheduled method was used. Moreover, appropriate quantitative techniques were used to assess the impact of irrigation on agricultural production. It was concluded that expansion of irrigation brings about crop diversification in agriculture and there by stimulates growth prospects of agriculture. Jangamhatti irrigation project has brought up a total change in the socio - economic life of Chandgad taluka through crop diversification.

KEYWORDS: *Agriculture, Cropping Pattern, Irrigation, Socio – Economic*

1) INTRODUCTION

Agricultural sector has held a dominant position in the India's economic development. However, this sector is rendered hazardous by scanty rainfall in large areas and by erratic monsoon. Partial failure or even delayed in arrival of the monsoon can cause extensive damage to crop and consequently adversely affect the economic condition of the farmers. Hence, efforts are required to make water available as supplement to rainfall and there by mitigate the grave consequences of a long dry spell by supplying water artificial to agriculture. In fact irrigation plays important role in boosting the growth prospect of agriculture.

Different systems of irrigation or complementary and supplementary rather than competitive as has been rightly observed by the famine enquiry commission. “The problem of water supply will not be solved by mere extended application of one particular method of irrigation but by the use of all methods”. Irrigation comprises of three different components viz. engineering, agriculture and socio-economic. Engineering components includes the designing and construction of structure required for storage, diversion, conveyance, delivery and distribution through channel and distributaries, determination of water yield, rivers and water supplies for irrigate lands. Agricultural components include the use of irrigation water and various agricultural practices and cropping pattern methods of application and the quantity of water for irrigation. The socio-economic component comprises the satisfaction of social and economic needs and desires which are essential for the betterment of the community.

The most important input required for agricultural development is irrigation as it facilitates multiple cropping and increase crop productivity. According to Charles Trevelyan, "Irrigation is everything in India. Water is more valuable than land, because, when water is applied to land it increases productivity at least six fold and renders great extent of land productivity which otherwise would produce less quantities of output."

In fact the irrigation projects have made security of life, they have increased the yield and the value of land and the revenue derived from it. They have lessened the cost of famine relief and have helped to civilize the whole region. In addition, they yield handsome profit to the government." Therefore, irrigation projects are quite essential for the agricultural development of region. In fact they help to bring out technological changes in agriculture thereby enhance economic prosperity of farmers and the region.

2) The Jangamhatti Irrigation Project, Chandgad Taluka

The Jangamhatti Irrigation Project is located in Chandgad taluka of Kolhapur District. This project was started on Jan 1981. The capacity of dam to store water is 21.40 square kms and water level is 34.21 million. This project has irrigation potential to the extent of 4503 hectares. At present command area of the project is 4457 hectares. Moreover 14 villages have been covered under this project. The length of dam is 960 meter and its height is 31.40 meters. The total land occupied by project is 519.28 hectares. The project was completed and implemented in June 1995. Since then farmers in this area have been availing the irrigation facility. Now time is quite mature to assess the performance of this project in the economic development of this region.

3) OBJECTIVES OF THE STUDY

The following are the main objectives of the study.

- i. To study the impact of Jangamhatti irrigation project on agricultural production, yield etc. in the command area of Jangamhatti irrigation project.
- ii. To study the impact of Jangamhatti irrigation project on cropping pattern and crop diversification in agriculture.

4) RESEARCH METHODOLOGY

The study was undertaken in the command area of Jangmahtti irrigation project, located in the Chandgad taluka of Kolhapur district. In which fourteen villages are covered. Out of 14 villages Jangmahtti village has been selected for the intensive study in view to know socio- economic impact of irrigation project. Out of total farmers of the village, hundred farmers have been selected and other relevant variables were collected through field work for the year 2015-16. For this purpose scheduled method was used. Moreover, appropriate quantitative techniques were used to assess the impact on irrigation on agricultural production.

5) Impact of Jangamhatti Irrigation Project

The availability of irrigation in agricultural sector brings about technological changes and thereby leads to improve the economic condition of farmers in rural land considered as main source of income. Impacts of Jangmahtti Irrigation Project are as follows.

The study showed that the numbers of marginal farmers and small farmers have increased significantly and the number of medium farmers and big farmers decreased remarkably.

Table 1: Classification of Farmers by Size of Owned Land

Categories	Construction of Dam	
	Before	After
Marginal farmers	13	27
Small farmers	19	27
Medium farmers	40	25
Big farmers	28	21

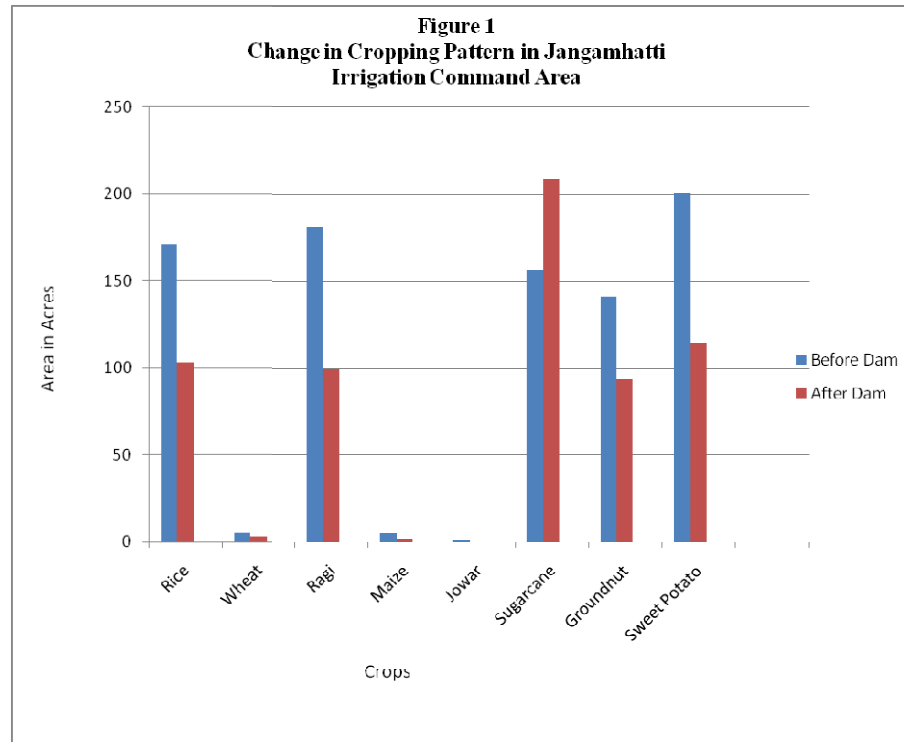
The survey showed that the economic condition of farmers have been improved due to Jangamhatti irrigation project. Out of the beneficiaries, economic condition of 62 farmers has directly improved significantly. However, some other farmer also benefited from this irrigation project. In fact, irrigation project has created significant change in socio economic life of rural community in this area..

It was also observed that area under different crops declined after the construction of dam, from 889.5 acres to 631.89 acres. Because the construction of the dam occupied the land taken from farmers. Consequently, area under cultivation has decreased. The area under cultivation of sugarcane increased from 156.62 acres (31.37%) to 209.25 acres (50.07%) in this region, sugarcane is the most preferred crop among the farmers. Farmer cultivated sugarcane as water is sufficiently available to them.

Table 2: Change in Cropping Pattern in Jangamhatti Irrigation Command Area

Sr. No.	Crops	Before Dam		After Dam	
		Area (acres)	% of Area	Area (acres)	% of Area
A	Foodgrain				
1.	Rice	171.48	19.27	103.15	16.32
2.	Wheat	5	0.57	3	0.47
3.	Ragi	181.05	20.36	99.53	15.75
4.	Maize	5	0.57	2	0.31
5.	Jowar	1	0.11	-	-
	Total	363.53	40.88	207.68	32.86
B	Cash Crops				
6.	Sugarcane	156.62	17.60	209.25	33.11
7.	Groundnut	141.1	15.86	93.97	14.87
8.	Sweet Potato	201.6	22.66	114.62	18.13
	Total	499.32	56.12	417.84	66.12
C	Other Crops				
		25.75	2.89	6.37	1.0
	Grand Total	889.5	100	631.89	100

Out of the total number of beneficiaries 93% of beneficiaries had membership of cooperative society. This reveals that due to irrigation water the need of credit was increased significantly. The 62% of farmers had accepted that there was an improvement in standard of living, due to increase in production and income. The beneficiaries had taken more interest in social and political affairs in this area. Thus, it revealed that participation in social, political affairs was positively related with the development of irrigation in study area. In study area, the Maratha caste was found to be dominating caste. At overall level 86% were Marathas followed by Mahar caste with 11% and Brahmin caste 3%. In the study area it was observed that after dam was being constructed, there has been improvement in economic status of farmers, their tendency toward nuclear family. In the village of Jangamhatti it was observed that female have their active contribution in decision process regarding farming, which indicates equal status of women. With growing income, people did not show much interest towards investment on the education of their children. Consequently, it was noticed that 77% of farmer’s children were participated in agriculture.



Moreover crop wise analysis showed that in irrigated area cropping pattern has been replaced by cash crops. Farmers are growing cash crops like sugarcane, potato, chilies, groundnut, cashew nut, rice etc. It was observed that due to irrigation, there has been improvement in yield of crops. Moreover, irrigation has brought about technological changes in agriculture; there has been use of HYV, chemical fertilizers and other modern inputs due to irrigation facility.

6) Policy Options

1. People want to acquire scientific knowledge about cropping pattern, production technology, marketing and resources management. Hence, it should be provided through agricultural extension services effectively.
2. Government should give them assurance about proper price for agricultural production to make farming profitable. At present majority of farmers sale their farm products at low prices in rural market.
3. Government should educate farmers about advantages of commercial agriculture.
4. Government should impose taxes according to use of water which would protect the farmers from using excessive water and thus the land will be protected from alkaline, and thus it will help to make sustainable development of farming.

7) CONCLUSION

Expansion of irrigation brings about crops diversification in agriculture and there by stimulates growth prospects of agriculture. Jangamhatti irrigation project has brought up a total change in the socio economic life of Chandgad taluka through crop diversification.

REFERENCES

1. *Government of Maharashtra (1989), Maharashtra Rajya Gazetteer, Kolhapur District.*
2. *Dhawan B.D.(1986), Economics of Ground Water Irrigation in Hard Rock Regions with Special Reference to Maharashtra State, Agricole Publishing Academy, New Delhi.*
3. *Shrinivasamurthy A.P. (1990), Irrigation Planning in India, Himalaya Publishing House, Bombay.*
4. *Vaidyanathan A. (1997), Water Resource Management Institutions in India, Oxford University Press, New York.*
5. *Report of Kolhapur Irrigation circle, Kolhapur 20015-16.*
6. *Socio –Economics Review and District Statistical Abstract of Kolhapur District, Kolhapur 2016-17.*
7. *Walmi (1992), Operation & Management of irrigation system in Maharashtra, Third Edi., Walmi Publication No. 20 February.*
8. <http://statistics.defra.gov.uk/esg/reports/divagri.pdf>
9. *State of Indian Agriculture – 20015-16, Government of India, Ministry of Agriculture, Department of Agriculture and Co-Operation, New Delhi.*
10. *Annual Report-2017-18, Government of India, Ministry of Agriculture, Department of Agriculture and Co-Operation, Krishi Bhavan, New Delhi.*

