

**IRRIGATION AND ITS IMPACT ON AGRICULTURAL LAND  
USE PATTERN OF JATH TALUKA IN SANGLI DISTRICT  
(MAHARASHTRA)**

**Dr. Dattatray D. Shinde**

*Assistant Professor*

*Adarsh College, Vita*

*Email ID: [ddshinde19@gmail.com](mailto:ddshinde19@gmail.com)*

---

**ABSTRACT:**

*The present research paper is giving emphasis on the irrigation facility is must for agricultural development. The physical, climatologically, socio - economic, technological, organizational, factors and farmers attitude etc. determinants closely influenced on the cropping pattern in the study region, but in the study area irrigation is an important determinant affected on the general land use and cropping pattern. Irrigation plays an important role in agrarian structure of a region which transforms the agricultural landscape. In the study region has well and surface irrigation facilities. In present study Jath taluka of Sangli district was selected which is come under drought region. The irrigation facility and cropping pattern of Jath taluka is compared with the Sangli district. The study focused on surface and well irrigated area in Sangli district, Jath taluka and cropping pattern of study region.*

**Key words:** *Irrigation facilities, Croppingpattern, Land use*

---

**INTRODUCTION:**

Irrigation is one of the main factors influencing the cropping pattern. If water is adequate, cropping pattern can be changed. Water is critical input that largely determines the cropping pattern of a region. When the government creates irrigation facilities, the farmers are tempted to cultivate more land. In the some piece of land, they grow more than one crop. Naturally irrigated land give more outputs as compared to the other unirrigated lands.

With the increased irrigated area is increasing and advances in agriculture science, most of the cropping pattern are giving way to intensive cropping. Mr. Y. K. murthy has rightly pointed out that irrigation is the basic factors to improve the income of the cultivators by helping to after their cropping pattern. The term cropping pattern is generally used to mean the proportion of area under varies crops at a point of time. The concept is a dynamic one as it is subjected to change with the change of

its environment (Ram Mohan Rao, 1989). As observed by the National Commission on Agriculture, the cropping pattern may be different depending upon various conditions. In low rainfall areas, the dominant crops are mainly millets, jowar and bajara. Mixed cropping pattern in the heavy rainfall areas show the dominance of paddy over tuber crops. In areas where there are irrigation facilities multiple cropping is possible, even to the extent of three or four crops.

**OBJECTIVES:**

1. To highlight the irrigation facility in the study region.
2. To analyse the land use and cropping pattern of the study region.
3. To study the impact of irrigation facilities on changing land use and cropping pattern of the study region.

**DATA COLLECTION AND METHODOLOGY:**

The researcher has collected the related information from the secondary source of data is collected from the district gazetteers, statistical abstract, socio - economic review reference books etc. The collected data has been processed, tabulated and interpreted.

**STUDY AREA:**

In Sangli district there are ten administrative talukas; Jath taluka is located at the eastern part of district. It is surrounded by Kavathemahankal taluka of the Sangli district on west, Athani taluka of Belgaum district of Karnataka on south, Sangola and Mangalwedha of Solapur district on north and Khanapur taluka on North West. In term of area annual rainfall in this taluka is about 528.5 mm. The taluka lies in the moisture deficit zone, so it is classified as 'dry' and is situated in the hot belt.

**AREA IRRIGATED BY SURFACE AND WELL IRRIGATION:**

Irrigation is essential for cultivation and better yield especially in the areas where rainfall is uncertain and scanty. Various sources of irrigation are practiced in Jath taluka. The important among them are wells, tube wells, tanks, dam, canals, farm ponds etc. The table no. 1 reveals that the area irrigated by surface and well irrigation. The total surface irrigated area in Sangli district was about 16.24 percent in 1979 - 80, which increased up to 29.01 percent with +12.77 percent in 2001 - 02. Jath taluka has also increased by surface irrigation with +9.63 percent. In Sangli district, about 83.76 percent of land was irrigated by well irrigation in 1979 - 80 and it has decreased up to 70.99 percent in 2001 - 02. Jath taluka has also decreased by well irrigation with

-11.84 percent during the study period.

**Table 1: Area irrigated by different sources**

Area	Year	By surface Irrigation		By well Irrigation	
		Area in hect.	Area in %	Area in hect.	Area in %
Sangli district	1979 - 80	10,631	16.24	54,846	83.76
	2001 - 02	41,810	29.01	1,02,327	70.99
	Change	+31,179	+12.77	+47,481	-12.77
Jath taluka	1979 - 80	523	4.92	12,800	23.34
	2001 - 02	6082	14.55	11,851	11.58
	Change	+5,559	+9.63	-949	-11.84

*Source: The socio - economic abstract of Sangli district*

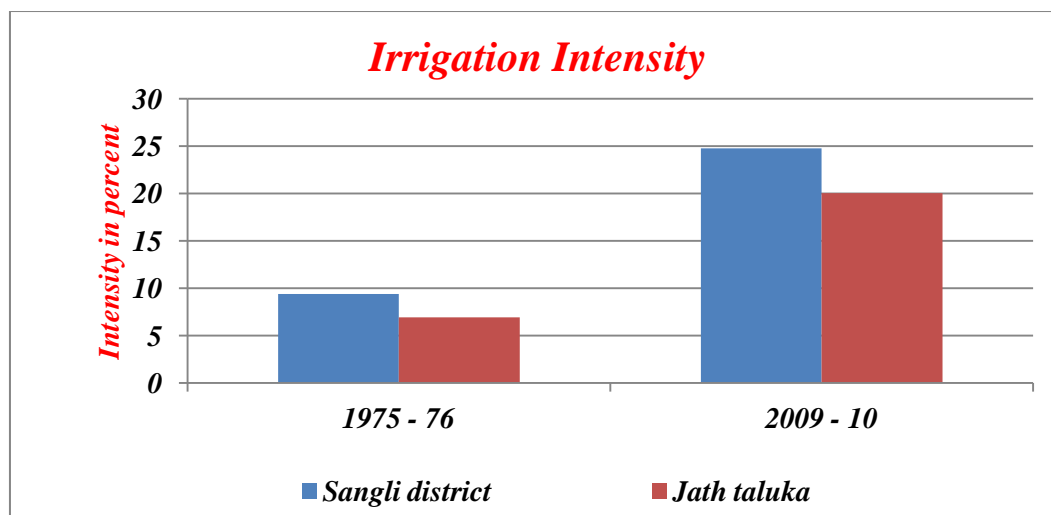
The intensity of irrigation is the proportion of net irrigated area to net sown area of the aerial unit. It is important regarding the cropping pattern and agricultural production.

**Table 2: Irrigation intensity**

Area	Sangli district			Jath taluka			
	Year	1975 - 76	2009 - 10	Change	1975 - 76	2009 - 10	Change
Irrigation intensity		9.41	24.76	+15.35	6.92	20.03	+13.11

*Source: The socio - economic abstract of Sangli district 1975 & 2009*

Table no. 2 shows that, Sangli district was 9.41 percent net irrigated area of the net sown area in 1979 - 80 and it increased up to 24.76 percent with +15.35 percent in 2009 - 10. Jath taluka has also continuously increased the intensity of irrigation with +13.11 percent during the 1979 – 80 to 2009 - 10.



This is clearly indicated by the proportion of surface irrigation which increased due to government of Maharashtra and Zillah parishad Sangli have constructed number of percolation tank and canals in this region under the employment guarantee scheme.

**GENERAL LANDUSE PATTERN:**

The pattern of land use is complex and dynamic. The analysis of land use devotes the status of land utilization for different purpose in an area.

**Table 3: General Land use Pattern (Area in %)**

Category	Sangli district			Jath taluka		
	1989 - 90	2009 - 10	Change	1989 - 90	2009 - 10	Change
Area under forest	4.32	4.38	+0.06	5.02	5.03	+0.01
Non agricultural land	8.06	9.15	+1.10	6.76	4.10	-2.66
Potential land	4.59	7.59	+2.99	3.93	2.55	-1.37
Fallow land	11.30	3.66	-7.76	24.52	4.51	-20.01
Net sown area	71.72	75.22	+3.61	59.77	83.81	+24.05
<b>Total</b>	<b>100</b>	<b>100</b>	<b>-</b>	<b>100.00</b>	<b>100.00</b>	<b>-</b>

**Source:***The socio - economic abstract of Sangli district 1989 & 2009*

The table no. 3 shows that the percentage of net sown area has increased with +3.61 percent and decreased fallow lands with -7.76 percent during 1989 – 90 to 2009 – 10. Jath taluka has increased in percentage of area under net sown area with +24.05 percent and decreased in fallow land with -20.01 percent during 1989 – 90 to 2009 – 10. This shows the efforts of farmers to bring the maximum land under cultivation.

**AGRICULTURAL LAND USE PATTERN:**

Table no. 4 reveals that the agricultural land use pattern in Sangli district. A variety of crops are grown in Sangli district. However, cereals, pulses, sugarcane, fruits and vegetable, oilseeds, cotton etc. are grown in the district.

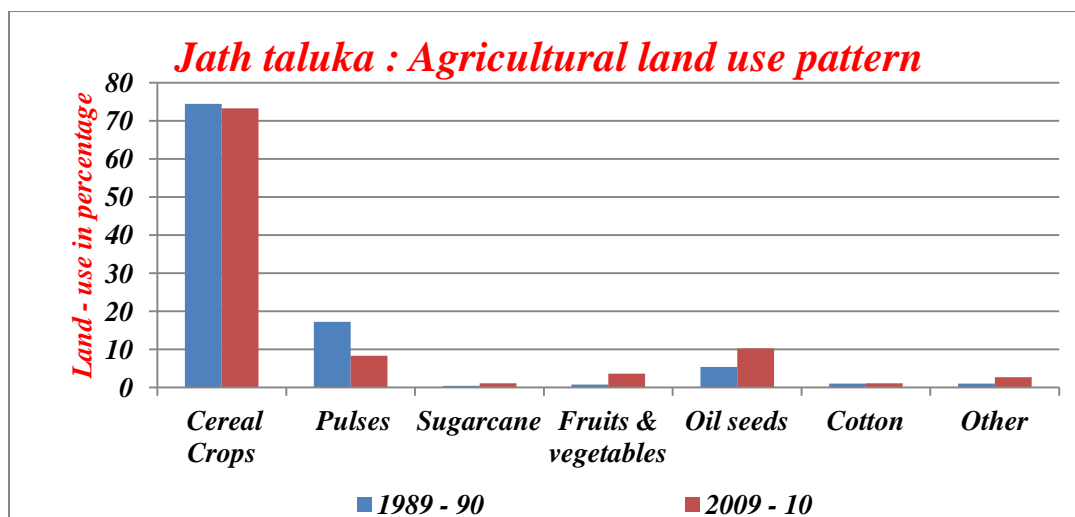
Table no. 4 reveals that Out of total cultivated area, the area under oilseeds, fruits cultivation is increased with +7.58 percent and +2.29 percent respectively during the study period. Overall the area under non food crops is increased with +7.82 percent and area under food crops are decreased with -7.81 percent during the study period. The area under cereal crops, pulses, sugarcane, vegetable, cotton and other crops negative change in Sangli district during 1989 – 90 to 2009 – 10. The area under fruits and vegetable shows positive change in Sangli district.

**Table 4: Agricultural land-use pattern in Sangli district**

	Land-use category	Area under different crops in %		Change
		1989 - 90	2009 - 10	
<b>A</b>	<b>Food crops</b>	<b>91.24</b>	<b>83.43</b>	<b>-7.81</b>
	<b>Food grain</b>	78.95	75.98	-2.97
	a. Cereal crops	64.24	62.43	-1.81
	b. Pulses	14.71	13.55	-1.16
	<b>Non food grain</b>	12.29	7.43	-4.86
	a. Sugarcane	3.98	2.21	-1.97
	b. Fruits	0.67	2.96	+2.29
	c. Vegetable & other	7.64	3.47	-4.13
<b>B</b>	<b>Non food crops</b>	<b>8.76</b>	<b>16.57</b>	<b>+7.82</b>
	a. Oil seeds	7.22	14.80	+ 7.58
	b. Cotton	0.62	0.56	-0.06
	c. Other	0.92	1.21	+0.29
	<b>Total district</b>	<b>100</b>	<b>100</b>	<b>-</b>

**Source:** *The socio - economic abstract of Sangli district 1989 & 2009*

Table no. 5 reveals that overall the area under non food grain ( sugarcane, fruits and vegetables ) was 1.11 percent in 1989 - 90 percent, which increased up to 4.59 percent in 2009 - 10.



The area under non food crops are increased with +6.66 percent during the study period. Area under sugarcane cultivation is slightly increased with +0.67 percent during the study period in study region.

**Table 5: Agricultural land use pattern in Jath taluka**

Land-use category	Area Under Different Crops in %		Change
	1989 - 90	2009 - 10	
<b>A Food Crops</b>	<b>92.73</b>	<b>86.07</b>	<b>-6.66</b>
<b>Food Grain</b>	91.62	81.48	-10.14
a. Cereal Crops	74.42	73.24	-1.18
b. Pulses	17.20	8.24	-8.96
<b>Non Food Grain</b>	1.11	4.59	+3.48
a. Sugarcane	0.37	1.04	+0.67
b. Fruits & vegetables	0.74	3.55	+2.81
<b>B Non Food Crops</b>	<b>7.27</b>	<b>13.93</b>	<b>+6.66</b>
a. Oil seeds	5.37	10.25	+4.88
b. Cotton	0.97	1.02	+0.05
c. Other	0.93	2.66	+1.73
<b>Total District</b>	<b>100</b>	<b>100</b>	<b>-</b>

*Source: The socio - economic abstract of Sangli district 1989 & 2009*

In Jath taluka shows that, positive change in non food grain, non food crops in which sugarcane, fruits and vegetables, oilseeds, cotton and other crops cultivation whereas, food grain cultivation are shows negative change in which cereal crops and pulses.

**CONCLUSION:**

Irrigation plays significant role in agrarian structure of a region which transforms the agricultural landscape. The area is irrigated by the source of well as well as surface irrigation in Sangli district. The area under surface irrigation is increased in Sangli district as well as Jath taluka with 12.77 percent and 9.63 percent respectively during the study period. The area under well irrigation is decreased in Sangli district as well as in Jath taluka during the study period. Jath taluka has increased in percentage of area under net sown area with +24.05 percent and decreased in fallow land with -20.01 percent during the study period.

Cropping pattern has shown the positive and negative change during the study period. Area under non food crops was increased in Sangli district and Jath taluka with +7.82 percent and +6.66 percent respectively during the study period. The area under non food grain, non food crops in which sugarcane, fruits and vegetables, oilseeds, cotton and other crops cultivation shows positive change in Jath taluka during the study period.

The agricultural land use pattern in Sangli district and Jath taluka was influenced by irrigation facilities. The positive co - relation is observed in cropping pattern and irrigation facilities during the study period in the study region.

**REFRECCES:**

1. Chauhan, D. S. (2010): Agricultural Geography, Jaipur, India Ritu Publications, ISBN 978 - 81 - 87445 - 50 - 0, P. 86.
2. Pail, R.B. (2012) : Impact of Water Percolation Tank on Changing Cropping Pattern : A Case Study of Rampur Village, Tal - Jath ( M. S. ), International Multidisciplinary Research Journal, ISSN 2249 - 9598, Volume - II, Issue - VI, P.94 - 103
3. Gajhans, D. S. (2016) : Impact of Irrigation Facilities on Changing Cropping Pattern in Newasa tahsil, Dist. - Ahmednagar (M.S.), International Multidisciplinary Research Journal, Indian Stream Research Journal, ISSN No - 2230 - 7850, Vol. - 6, Issues 5 June 2016
4. Shinde, D. D. (2015) : Geographical Analysis of Rural Transformation in Sangli District (Maharashtra)
5. Sangli District Socio Economic Review
6. Sangli District Gazetteer