



## Cereal Crop Distribution in Solapur District

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### Introduction

Solapur district, situated in the southwestern part of Maharashtra, India, is renowned for its agricultural prominence and diverse cropping patterns. The district's geographical location, soil composition, and climatic conditions collectively shape its agricultural landscape, making it a significant contributor to the state's agrarian economy. Among the various types of crops cultivated, cereals hold a pivotal position due to their role in ensuring food security, supporting livelihoods, and sustaining the agro-based economy of the region. This introduction delves into the importance, characteristics, and factors influencing the distribution of cereal crops in Solapur district, setting the stage for an in-depth exploration of their patterns and implications.

### Geographical and Climatic Context

Solapur district spans an area of approximately 14,895 square kilometers and is characterized by its semi-arid climate, with moderate to low rainfall averaging between 500 to 700 mm annually. The district lies in the rain-shadow region of the Western Ghats, resulting in erratic and uneven rainfall distribution. Despite these climatic challenges, agriculture remains the primary livelihood for the majority of its population. The district comprises diverse agro-climatic zones, ranging from dryland areas to regions with irrigation facilities, which significantly influence the distribution and type of crops grown, including cereals.

The soils in Solapur vary from deep black cotton soils to shallow, medium black, and red soils, each of which plays a crucial role in determining the suitability of specific cereal crops. Black cotton soils, for instance, are highly fertile and retain moisture, making them ideal for cultivating crops like sorghum (jowar) and maize. On the other hand, red soils, which are less fertile and retain less moisture, are often utilized for drought-resistant crops like millets.

### Importance of Cereal Crops in Solapur District

Cereal crops, which include Jawar, Bajra, maize, wheat, and other millets, form the backbone of Solapur's agricultural economy. These crops are staple foods for the local population, providing essential nutrients and energy. Jawar and wheat, in particular, are integral to the traditional diet and are well-suited to the semi-arid conditions of the region.

The cultivation of cereals also plays a significant role in supporting the livestock sector, which is a major economic activity in Solapur. Cereal by-products, such as straw and husk, are used as fodder for cattle, goats, and sheep, ensuring the sustainability of mixed farming systems prevalent in

the district. Moreover, cereal farming contributes to soil health and fertility through crop rotation practices, which are essential in combating land degradation in this drought-prone area.

### Study Area

Solapur district is one of the prominent districts of Maharashtra, bordered by Pune, Satara, Sangli, Osmanabad, and Ahmednagar districts. The district is subdivided into 11 talukas, namely Solapur North, Solapur South, Akkalkot, Barshi, Mangalwedha, Pandharpur, Sangole, Karmala, Madha, Malshiras, and Mohol. Solapur city serves as the district headquarters and is an important urban center known for its textile and bidi industries.

The district is traversed by several rivers, including the Bhima, Sina, and Man rivers, which are vital for irrigation and water supply. However, the dependency on monsoons and the variability in rainfall have necessitated the development of water conservation measures such as tanks, percolation ponds, and check dams.

The demographic profile of Solapur reflects a predominantly rural population engaged in agriculture and allied activities. According to the census data 2011, the population density of the district is around 290 persons per square kilometer, with a literacy rate exceeding 75%. The agricultural landscape is dominated by small and marginal farmers, making effective resource management and agricultural planning essential for sustainable development.

### Objective of the study

To find out cereal crop's distribution of the study area for the year 2022-2023

### Database and Methodology

The present study is based on secondary sources of data. The secondary data has been collected from Directorate of Economics and

Statistics Planning Department, Government of Maharashtra, India. The tabular type of data processed in MS-Excel. Statistical analysis also done in MS-Excel. All maps and diagrams of this research made in QGIS software.

### Cereal crop Distribution – Year 2022-23

The table 1 depicts information regarding the area-wise distribution of cereal crops in different tehsils of Solapur districts. Rice, wheat, jawar, bajra and corn are the major cereal crops cultivated here. Jawar has the most extensive area of 236778 (53.29%) hectares and corn comes in the second position with an area of 122990 (27.68%) hectares.

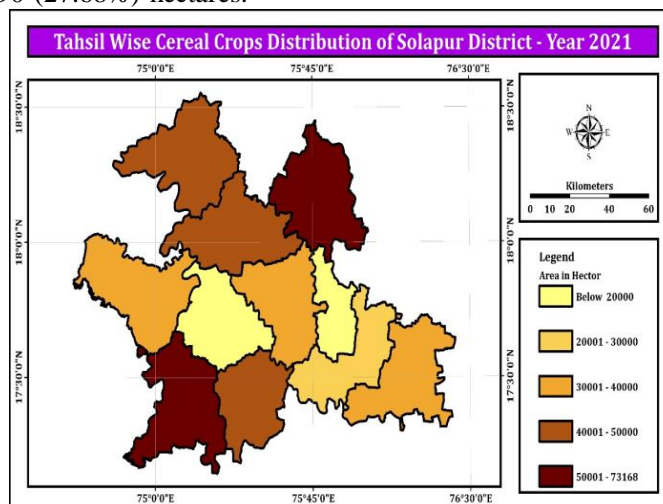
Wheat and Bajra are the next two crops with a geographical distribution of 63411 (14.027%) and 21159 (4.76%) hectares each. Rice is the least cultivated cereal crop with an area of only 5 hectares.

### Fig. 1

#### Rice Crop

In the Solapur district, rice cultivation is limited to Akkalkot and South Solapur. South Solapur has a rice cultivating area of 4 hectares and Akkalkot has only one hectares.

Wheat



Wheat is another crop with a significant regional allocation in Solapur. Akkalkot tehsil has the largest wheat-cultivating area of 17014 (3.83%) hectares. South Solapur comes second with an area of 8388 (1.89%) hectares and is followed by Karmala with an area of 6369 (1.43%) hectares. Regarding other tehsils, Mohol contains an area of

4979 (1.12%) hectares, Madha with 4532 (1.02%) hectares, Mangalwedha with 4437 (1%) hectares, Malshiras contain 4330 (0.97%) hectares, North Solapur contain 3784 (0.85%) hectares, Pandharpur contains 3509 (0.79%) hectares, Barshi contains 3179 (0.72%) hectares and Sangola the last tehsil contains 2890 (0.65%) hectares of wheat cultivation.

**Table 1: Cereal Crops Distribution- Year 2022-23**

Sr. No.	Name	Area in Hectare					Total Cereals
		Rice	Wheat	Jawar	Bajra	Corn	
1	Karmala	0	6369	27760	341	14517	48987
2	Madha	0	4532	21568	434	22159	48693
3	Barshi	0	3179	53735	0	10	56924
4	N Solapur	0	3784	13435	5	1115	18339
5	Mohol	0	4979	19086	0	13068	37133
6	Pandharpur	0	3509	2542	69	8788	14908
7	Malshiras	0	4330	3630	3295	22019	33274
8	Sangola	0	2890	32724	11016	26538	73168
9	Mangalwedha	0	4437	25638	5848	12914	48837
10	S Solapur	4	8388	15826	100	986	25304
11	Akkalkot	1	17014	20834	51	876	38776
	Total	5	63411	236778	21159	122990	444343

Source: Directorate of Economics and Statistics Planning Department, Government of Maharashtra, India.

**Table 2: Cereal Crops Distribution- Year 2022-23**

Sr. No.	Name	Area in Percentage					Total Cereals
		Rice	Wheat	Jawar	Bajra	Corn	
1	Karmala	0.00	1.43	6.25	0.08	3.27	11.02
2	Madha	0.00	1.02	4.85	0.10	4.99	10.96
3	Barshi	0.00	0.72	12.09	0.00	0.00	12.81
4	N Solapur	0.00	0.85	3.02	0.00	0.25	4.13

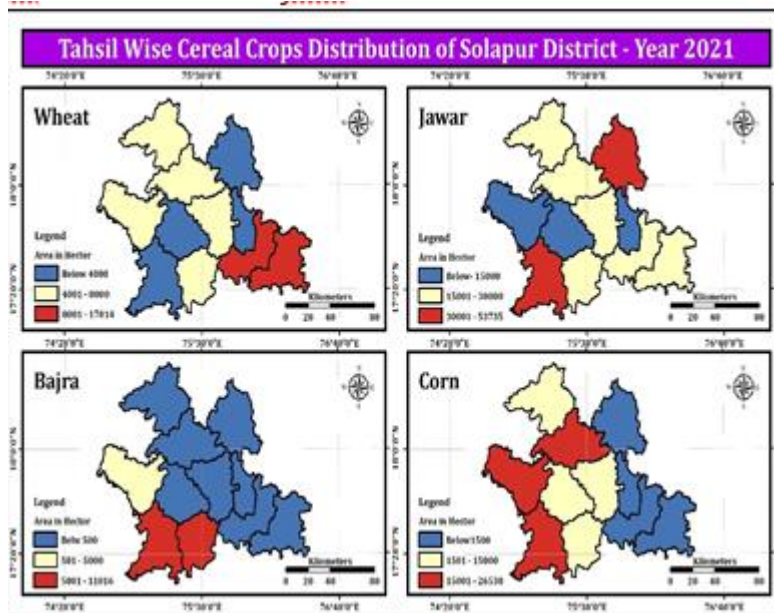
5	Mohol	0.00	1.12	4.30	0.00	2.94	8.36
6	Pandharpur	0.00	0.79	0.57	0.02	1.98	3.36
7	Malshiras	0.00	0.97	0.82	0.74	4.96	7.49
8	Sangola	0.00	0.65	7.36	2.48	5.97	16.47
9	Mangalwedha	0.00	1.00	5.77	1.32	2.91	10.99
10	S Solapur	0.00	1.89	3.56	0.02	0.22	5.69
11	Akkalkot	0.00	3.83	4.69	0.01	0.20	8.73
	Total	0.00	14.27	53.29	4.76	27.68	100.00

Source: Computed by author.

**Jawar**

Jawar is a significant cereal crop cultivated in all tehsils of Solapur. This crop has the highest spatial distribution among others. Tehsil Barshi has the highest geographic distribution with an area of 53735 (12.09%) hectares and Sangola comes second rank with an area of 32724 (7.36%) hectares. Other tehsils like Karmala have jawar cultivation of 27760

(6.25%) hectares, Mangalwedha has 25638 (5.77%) hectares, Madha has 21568 (4.85%) hectares, Akkalkot has 20834 (4.69%) hectares of area, Mohol has 19086 (4.30%) hectares, South Solapur has 15826 (3.56%) hectares, North Solapur has 13435 hectares, Malshiras has an area of 3630 hectares and last one Pandharpur has 2542 hectares of jawar cultivation.



**Fig.2**  
**Bajra**

Bajra is the least cultivated cereal in Solapur its total cultivating area is 21159 hectares. Sangola has the highest locational spread of Bajra around 1106 (2.48%) hectares followed by Mangalwedha with an areal extension of 5848 (1.32%) hectares, Malshiras with 3295(0.74%), then Madha with 434(0.1%) hectares, Karmala with an area of 341 (0.08%) hectares, South Solapur with 100 (0.02%) hectares, Pandharpur with 69 (0.02%) hectares, Akkalokot with 51 (0.01%) hectares and finally North Solapur with only 5 hectares.

**Corn**

Regarding the spatial distribution of corn, Sangola tehsil has the largest area of 26538 (5.97%) hectares and Madha comes in the second position with an area of 22159(4.99%) hectares. Among other tehsils, Malshiras comes next to Madha with an area of 2209 (4.96%) hectares, then Karmala with 14517 (3.27%) hectares, followed by Mohol with 13068 (2.94%) hectares, Mangalwedha with 12914 (2.91%) hectares, Pandharpur with an area of 8788

hectares, North Solapur with 1115 (0.25%) hectares, South Solapur with 986 (0.22%) hectares and Akkalkot with an area of 876 (0.2%) hectares. Barshi comes in the last position with an area of only 10 hectares.

**Summary**

The area-wise distribution of cereal crops in Solapur district highlights the dominance of jowar, which covers 53.29% of the total cereal crop area, followed by corn at 27.68%. Wheat and bajra also contribute significantly, accounting for 14.27% and 4.76%, respectively. Rice, however, is minimally cultivated, with only 5 hectares of land allocated to it. This distribution reflects the region's reliance on drought-resistant crops like jowar and corn due to its semi-arid climate and limited water resources.

**Conclusion**

The analysis of cereal crop distribution in Solapur underscores the importance of drought-tolerant cereals in sustaining agricultural productivity in this semi-arid region. Jowar's extensive cultivation exemplifies its adaptability to

local conditions and its role in ensuring food security. The minimal cultivation of rice highlights the need for improved water management if the region seeks to diversify its cereal production. Focused efforts on enhancing irrigation infrastructure, promoting efficient cropping practices, and supporting farmers can further optimize cereal crop production and sustainability in the district.

Understanding the dynamics of cereal crop distribution in Solapur is crucial for devising strategies to enhance agricultural productivity and resilience. Interventions such as improving irrigation infrastructure, promoting soil conservation practices, and providing market support can play a pivotal role in addressing the challenges faced by farmers. By leveraging its strengths and addressing its vulnerabilities, Solapur can continue to thrive as an important agricultural hub in Maharashtra.

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