



## Cropping Pattern in Sina River Basin (Maharashtra): A Case Study of Paranda Tehsil

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### Abstract:

*Agriculture is the mainstay of peoples inhabited in Sina River Basin. The concept of cropping pattern is of vital important in agricultural regionalization as it changes over space and time. The study of cropping pattern is applicable for analysis of prevailing agricultural practices and further planning at micro level. In the present research paper an attempt has made to study the cropping pattern in Paranda tehsil in Osmanabad district of Maharashtra (India). For the present case study, block has been taken as an areal unit. Block wise data under different crops for the year 2015-16 has been collected through the visit to Tehsil Agricultural Office of Paranda tehsil. The collected data analyzed block-wise and crop-wise per cent values calculated and the results are shown in tables and figures.*

**Keywords:** *Cropping Pattern, Cereals, Pulses and Oilseeds.*

### Introduction:

Cropping pattern is a dynamic concept as it changes over space and time. Cropping pattern denotes the spatial and hierarchical pattern of crops in an area. It is also a reflection of the interplay of the complex physical, social and economic factors. Cropping pattern also indicates the proportion of area under different crops in a region. The most striking characteristic of the present day agriculture is its great diversity of practice, products and organization (Grigg, 1969). In any region a large number of factors affects agricultural scenario, those areas of world where physical diversities are less, the cropping patterns are less diversified (Majid Husain, 1996). Agriculture is the mainstay of peoples inhabited in Sina River Basin. The concept of cropping pattern is of vital important in agricultural regionalization as it changes over space and time. The study of cropping pattern is applicable for analysis of prevailing agricultural practices and further planning at micro level. In the present research paper an attempt has made to study the cropping pattern in Paranda tehsil in Osmanabad district of Maharashtra (India).

### Study Area:

Sina river basin lies in drought-prone area of Maharashtra and is a sub-basin of Bhima river. The basin extended from 17° 22'43" North Latitude to 19°09'09" North Latitude and 74°43'11" East Longitude to 75°53'48" East Longitude. The total geographical area of the river basin is about 12051.446 sq. kms. The river Sina has its total length of about 307 km through the district of Ahmednagar, along the boundary of Ahmednagar and Beed districts, along the boundary of Solapur and Osmanabad districts and through the Solapur district. It is about 150-200 m broad and has steep banks. It receives Bhogawati River as its main left bank tributary about 7 km north of Mohol town. Overall the river basin comprises the parts of Ahmednagar, Beed, Osmanabad and Solapur districts. The parts of Ahmednagar, Pathardi, Parner, Shrigonda, Karjat, and Jamkhed tehsils of Ahmednagar district, the whole Asti tahsil of Beed district, the whole Paranda tehsil, parts of Bhum, Osmanabad and Tuljapur tehsils of Osmanabad district; the whole Barshi and North Solapur tehsil and eastern parts of Karmala, Madha and Mohol tehsils and western part of South Solapur tahsil occurs in the study region. Paranda tehsil is located on the left bank of Sina River. The river Sina runs about 58.47 km along the western boundary of Paranda tehsil. The tehsil comprises 96 villages. Paranda tehsil having 833.67 Sq.km area (83367 hectares) lies in Osmanabad district in Maharashtra (India) and it covers 6.91 per cent area to the total area of Sina river basin.

### Objective:

The main objective of the present study is to analyze block-wise cropping pattern in Paranda tehsil in the year 2015-16.

### Data Source and Methodology:

The present work is based on secondary data. For the present case study, block has been taken as an areal unit in Paranda tehsil of Osmanabad district in the Sina river basin. The data related to cropping pattern is collected Block wise for the year 2015-16 has been collected by hand through the visits to tehsil

agricultural office. The collected data analyzed, block-wise and crop-wise per cent values calculated and the results are shown in tables and figures.

### Block-Wise Cropping Pattern in Paranda Tehsil: 2015-16

Geographically hundred per cent area, i.e. 83367 hectares, of Paranda tehsil lies in Sina river basin. Administratively this is a westernmost tehsil in Osmanabad district of Maharashtra and divided into five blocks viz. Paranda, Asu, Jawala, Sonari and Anala. In 2015-16, gross cropped area in Paranda tehsil was 77341 hectares (92.77 Per cent). Out of it Sonari block constitutes 25 per cent, Anala 23 per cent, Asu 20 per cent, Paranda 17 per cent and Jawala 15 per cent area to the total gross cropped area. Table No. 1 and Figure No. 1 shows block-wise cropping pattern in Paranda tehsil for the year 2015-16.

#### 1) Paranda Block

Total gross cropped area in this block was 13218 hectares i.e.17 per cent area to the GCA in tehsil. Out of it 5602 hectares was under cereal crops. Jowar(*Sorghum Vulgare*)crop is the main crop with 37.6 per cent area to the total gross cropped area of the block. Maize (4.29 per cent) and bajra(*PennisetumTyphoideum*)(0.49 per cent) are other cereal crops taken in this block. Pulses covered 30.5 per cent area to the GCA of block. It includes Tur(*Arhar*) (13 percent), gram (*Harbhara*)(8.31 per cent), udid(*Black Gram*)(5.96 per cent) and mung(*Green Gram*)(2.98 per cent). As compared to other blocks Paranda block stand first in terms of area under sugarcane with covering 10.46 per cent area. Cotton is another cash crop in this block having 3.51 per cent area. Oilseeds covered 13.15 per cent area to the GCA in this block. Soyabean (7.24 per cent area), and sunflower (4.71 per cent) are major oilseeds taken in this block. Groundnut(*ArachisHypogaea*), linseed and seasmum crops were also taken in some proportion.

Table No. 1

Block wise Cropping Pattern in Sina River Basin: A Case Study of Paranda Tehsil

Blocks	Cereals	Pulses	Sugarcane	Cotton	Oilseeds
Paranda	42.38	30.5	10.46	3.51	13.15
Asu	40.51	34.18	7.15	4.43	13.73
Jawala	45.9	33.09	1.48	5.24	14.29
Sonari	44.9	33.27	3.05	3.81	14.96
Anala	49.92	28.8	1.38	3.51	16.39
Taluka	44.88	31.93	4.53	4.02	14.63

Source: Tehsil Agricultural office, Paranda

#### 2) AsuBlock

Total gross cropped area in this block was 15589 hectares. Out of it 40.51 per cent area was under cereal crops. Jowar crop dominated the cropping pattern with 34.7 per cent area to the total gross cropped area of the block. Maize (4.9 per cent), bajra (0.69 per cent) and wheat(*Triticum*)(0.22) are other cereal crops taken in this block.

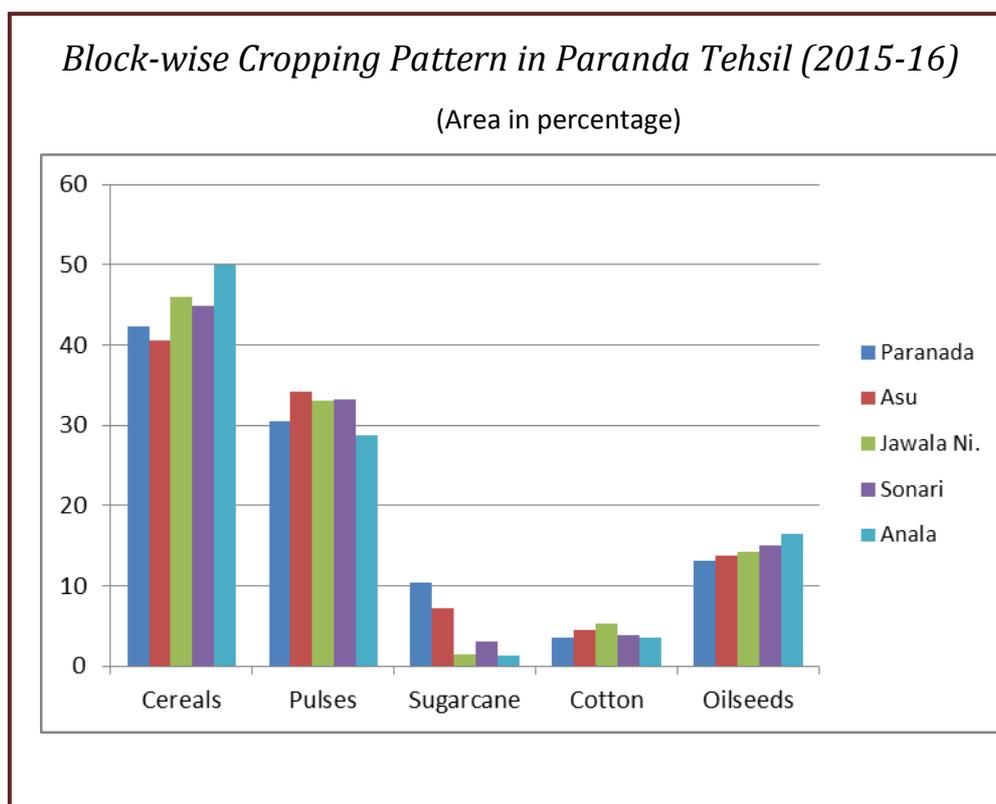
As compared to otherblocks, Asu block stands first in the area under pulses (34.18 per cent area). Tur (17.06 percent area), gram (8.53 per cent),udid (6.13 per cent) and mung (2.13per cent) are significant crops in this group of crops i.e. pulses. Sugarcaneand cotton areimportant cash crops with area covered 7.15 per cent and 4.43 per cent respectively.

Soyabean (9.6 per cent area) and sunflower (3.24 per cent area) are major oilseeds grown in this block. Groundnut, linseed, seasmum and safflower(*CarthamusTinctorius*) crops were also taken in some proportion. Totally, all oilseeds covered 13.73 per cent area to the GCA in this block.

#### 3)JawalaBlock

Total gross cropped area in this block was 11216 hectares. Out of it 45.90 per cent area was under cereal crops. Jowar(39.35 per cent),maize (5.82 per cent) and bajra (0.73 per cent) are other cereal crops taken in this block.

Second important group of crops is pulses and it covered 33.09 per cent area of the block. It comprises Tur (14.32 percent), gram (8.90 per cent), udid (5.72 per cent) and mung (3.82 per cent). Cotton is the main cash crop covering 5.24 per cent area and sugarcane (*Saccharumofficinarum*) is another cash crop in this block having 1.48 per cent area.



*Fig: 1-Block wise Cropping Pattern in Paranda Tehsil*

As compared with other blocks, Jawala block stand first in the proportion of area under oilseeds. Oilseeds covered 14.29 per cent area to the gross cropped area in this block. Soyabean (6.48 per cent area) and sunflower (5.42 per cent area) are major oilseeds grown in this block. Groundnut, linseed, seasmum and safflower crops were also taken in some proportion.

#### 4) Sonari Block

In this block, total cropped area was 19619 hectares. Out of it 44.90 per cent area was under cereal crops. Jowar crop is the main crop with 39.61 per cent area to the total gross cropped area of the block. Maize (4.64 per cent), bajra (0.56 per cent) and wheat (0.09 per cent) are also taken in this block. Pulses covered 33.27 per cent area of the block. It comprises udid (10.33 per cent), Tur (9.46 per cent), gram (8.02 per cent) and mung (5.23 per cent) respectively, Cotton crop having 3.81 per cent area and sugarcane with 3.05 per cent area are significant cash crops in Sonari block. Third group of crop in this block is oilseeds covering with 14.96 per cent area to the GCA in this block. Soyabean (9.94 per cent area) and sunflower (4.53 per cent area) groundnut, linseed, seasmum and safflower crops are taken in this block of Paranda tehsil.

#### 5) Anala Block

Anala block stand first in terms of area under cereals as compared to other blocks. Total gross cropped area in this block was 17699 hectares. Out of it 49.92 per cent area was under cereal crops. Jowar is the main crop with 45.2 per cent area to the total gross cropped area. Maize (4.64 per cent) and bajra (0.56 per cent) are another cereal crops taken in this block. Pulses covered 28.8 per cent area of the block. It includes udid (10.12 per cent), Tur (6.84 per cent), gram (6.36 per cent) and mung (5.36 per cent). Cotton (*Gossypium*) is the principal cash crop covering 3.51 per cent area and sugarcane is another cash crop in this block having 1.38 per cent area. Oilseeds covered 16.39 per cent area to the GCA in this block. Soya bean (10.34 per cent area), and sunflower (4.53 per cent area) are major oilseeds grown in this block. Groundnut, linseed, seasmum and safflower crops were also taken in some proportion.

#### Conclusion:-

The study of cropping pattern is an important task in the field of agricultural geography as it is applicable for the analysis of prevailing agricultural practices and further planning at micro level. Paranda tehsil is an agrarian region with a variety of crops. It is observed that, cereal crops dominated the cropping

pattern in all blocks with more than 40 per cent area to the total cropped area in each block. Jowar is the main crop taken in all blocks of Paranda tehsil. Maize, bajra and wheat are other cereals taken in the tehsil. The area under wheat crop is found only in Asu and Sonari block. The second important group of crops in terms of area is pulses. Tur is the main crop in this group of crops in Paranda, Asu and Jawala block whereas Udid crop dominated in Sonari and Anala block. Gram and Mung are other pulses taken by farmers in all blocks. It is observed that Soya bean is the main oilseed in all blocks of Paranda tehsil. As far as cash crops are concerned, it is observed that the proportion of area under sugarcane is remarkable in Paranda and Asu block under cotton whereas area under cotton is significantly found in Jawal, Sonari and Anala block and it is followed by Groundnut, linseed, sesam and safflower respectively. By comparing the area under different crops during the period of investigation i.e. 2015-16, it is clear that the area under sugarcane and cotton is low as compared to the area under cereals, pulses and oilseeds in all blocks in Paranda tehsil.

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