

A Geographical Study of Major Crops in Drought Prone Area of Nashik District (M.S.)

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Abstract

Drought is an environmental hazard which is highly influence on socio-economic status of drought prone area. The rainfall of Eastern part of Nashik district is low and scarcity of water is increasing day to day. This research paper has given emphasis on the study of major crops in drought prone area of Nashik district. The intensity of drought is highly impact on agricultural field founds in study region. This area is purely depending on the South-western monsoon. The major crops of the study area are highly affected by drought. The agricultural pattern of this area indicates and demarcates the drought area of Nashik district.

Key Words: Drought, Cropping Pattern, Major Crops, Cropping Intensity etc.

Introduction:

Drought is a climatic anomaly, characterized by deficient supply of moisture resulting either from sub-normal rainfall, erratic rainfall distribution, higher water need or a combination of all the three factors. About two thirds of the geographic area of India receives low rainfall, which is also characterized by uneven and erratic distributions.

On an average, severe drought occurs once every five years in most of the tropical countries, though often they occur on successive years causing severe losses to agriculture and allied sectors. The water needs in agricultural sector are going to be very high, as several thousand tons of water is required to produce each metric ton of food grains.

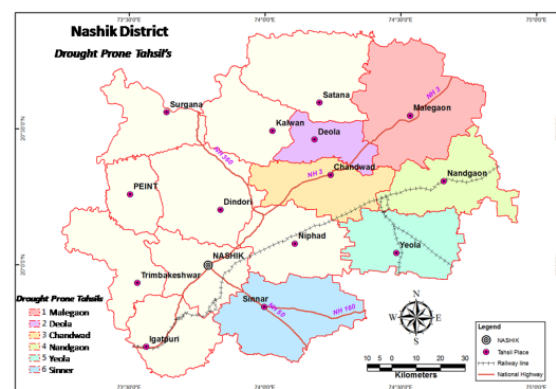
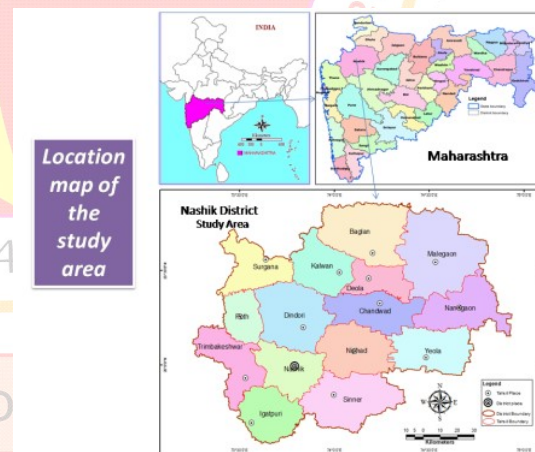
the North , Jalgaon and Aurangabad district in the East, Anmednagar district in the South, Thane district in the South-West and Gujarat state in the North-West(map1.1). Nashik district has an area of 15530 sq. km. and population of 6,109,052, as per the 2011 census. There are 15 tahasils and 66 revenue circles are in the Nashik district.

Aims and Objectives:

1. To study the Geographical setup of study area.
2. To study the Major Crops of study region.

Study Area:

Nashik district is situated in the Deccan trap of Maharashtra which is partly in the Tapi Basin and partly in the upper Godavari Basin. It lies between 19° 35' 18" North latitude to 20° 53' 07" North latitude and 73° 16' 07" East longitude to 74° 56' 22" East longitude. It is surrounded by Dhule district in



Since last 27 years the grape has acquired dominance on the agricultural economy of the district. Due to water shortage in Kalwan, Deola, Baglan & Malegaon blocks, the farmers have shifted to pomegranate from sugarcane & grape crops. Some progressive farmers are cultivating flowers in green houses. These developments also indicate that the farmers in the district adopt new technologies & methods of cultivation very fast.

Methodology:

Present study includes data collection from various sources, data analysis, map preparation and results. The methodology is adopted to fulfill the objectives of the present study. Field work component mostly comprises with collecting secondary data of selected crops from various government offices and rainfall data of the study area. Base map of the study area has been prepared using SOI topographical maps on 1:50,000 scale. DEM of the study area has been generated by contour digitization in GIS environment. The data of crops take into consider for the period of 1991 to 2019. Gross cropped area has been used for the comparative study. To measure cropping area is calculated in the hector and unit of Average is considered for the present study.

Explanation

Nashik district is divided into two division on the basis of rainfall. The western part of the district is in the high rainfall due to the relief rainfall. This region is in the mountainous area of *Sahyadri*. The eastern part of the district is in the rain shadow zone so rainfall is very low. These two regions characteristics highly influence on the cropping pattern of the study area. The present research work throws limelight on the study of selected crops which are the indicators of high rainfall and drought areas of study area.

A) Crops in the High Rainfall/ Irrigated Area:

1) **Rice:** This crop is dominant in the western part of study area. According to the crop data of 1990-91(Table-1) in Igatpuri tehsil 37.42 % area was under this crop to gross cropped area which is highest in the district followed by Peth (20.69) and Surgana (11.25). According to the crop data of

2018-19 (Table-2) Igatpuri Tehsil is also at highest level i.e. 51.54% to gross cropped area which is followed by Trimbak (30.98), Surgana (30.33), Peth(20.73), Nashik(12.41) and Kalwan(8.43).

**Table No 1. Nashik District: Tahsilwise Proportion of Crops
Gross Cropped Area- 1990-91 (Percent)**

Sr. No	Name of Tahsil	Crops				
		Rice	Wheat	Jawar	Bajara	Maize
1	Surgana	11.25	2.2	8.62	0	0
2	Kalwan	3.27	4.67	16.87	19.56	8.49
3	Deola	N.A.	N.A.	N.A.	NA	NA
4	Baglan	1.54	12.39	3.95	50.28	2.51
5	Malegaon	0.5	7.13	4.29	54.68	0.65
6	Nandgaon	0.07	2.96	4.33	69.04	0.21
7	Chanvad	0.53	3.19	6.71	65.64	0.36
8	Dindori	3.25	26.39	12.94	3.81	0
9	Peth	20.69	0	0.43	0	0
10	Trimbak	N.A.	N.A.	N.A.	NA	NA
11	Nashik	9.92	14.77	2	11.51	0.03
12	Igatpuri	37.42	4.64	0.66	0.07	0.7
13	Sinnar	0.55	6.59	12.49	48.25	0.01
14	Niphad	0.67	12.07	11.29	40	0
15	Yeola	0.06	14.79	17.41	44.71	0.03

Source: Statistical Abstract of Nashik District 1991

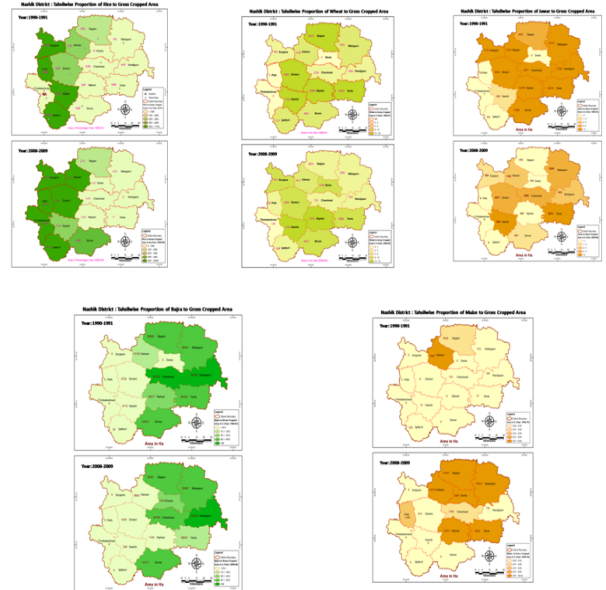
2) **Wheat:** This crop is occupied in the central part of Nashik district which is also high to medium rainfall area. In this region Dindori tehsil is densely occupied by this crop which is 26.39% to gross cropped area in 1990-91 followed by Nashik (14.77), Baglan (12.39) and 12.07 Niphad tehsil.(High irrigation). But according to cropping data of 2018-19 highest cropped area is found in Nashik district

which is 13.52% to gross cropped area followed by Niphad (12.25), Deola (11.57), Surgana(10.29) and Dindori(9.28).

**Table No 2.Nashik District: Tahsilwise Proportion of Crops
Gross Cropped Area- 2018-19 (Percent)**

Sr. No	Name of Tahsil	Crops				
		Rice	Wheat	Jawar	Bajara	Maize
1	Surgana	30.33	10.29	1.59	0	0
2	Kalwan	8.43	7.17	2.49	14.5	30.52
3	Deola	0.01	11.57	0.47	37.54	19.11
4	Baglan	2.33	3.74	0.23	46.92	15.08
5	Malegaon	0.05	3.36	3.52	52.74	21.72
6	Nandgaon	0	2.26	2.22	66.12	1.99
7	Chanvad	0.35	1.22	3.21	57.45	2.87
8	Dindori	9.14	9.28	3.03	2.26	1.19
9	Peth	20.73	1.18	0	0.03	4.34
10	Trimbak	30.98	0.4	0	0	0
11	Nashik	12.41	13.52	4.07	1.5	0
12	Igatpuri	51.54	3.29	0.01	0	0
13	Sinnar	4.98	8.73	1.04	49.05	0
14	Niphad	0.23	12.25	0.39	1.87	19.6
15	Yeola	0	9.67	4.25	27.25	12.52

Source: Statistical Abstract of Nashik District 2020



3) Maize: This crop is highly occupied in the Kalwan tehsil which is 8.49% to gross cropped area according to 1990-91 data. Baglan tehsil is also occupied by 2.51% . According to cropping data of 2018-19 Kalwan is the highest cropping area i.e. 30.52% followed by Malegaon (21.72), Deola(19.11), Niphad (19.6), Deola (19.11) and Baglan(15.08).

B) Crops in the Low Rainfall/ Drought prone Area:

1) Jawar: The eastern and central part of Nashik district densely occupied by this crop according the data of 1990-91. The gross cropped area 17.41% of Yeola tehsil is largely occupied by this crop. Afterwards Kalwan (16.87), Dindori (12.94), Sinnar (12.49) Niphad (11.29) and Surgana (8.62). According to data of 2018-19 the gross cropped area of Jawar is decreased rapidly due to changing cropping pattern of study area. Still Yeola tahsil is occupied by 4.25% to gross cropped area followed by Nashik(4.07), Malegaon (3.52) and Dindori (3.03).

2) Bajara: The high cropped area of this crop is the indicator of low rainfall area i.e. drought prone area. The cropping data of 1990-91 shows that this crop is highly occupied in the Nandgaon tehsil (69.04%) followed by Chandvad (65.64), Malegaon (54.68), Baglan (50.28), Sinnar (48.25), Yeola (44.71), Niphad (40), Kalwan (19.56) and Nashik (11.51) respectively. The cropping data of 2018-19

shows that the gross cropped area of Chandvad tehsil area is highly occupied by this crop (57.45%). The occupied area of this crop is decreased as Malegaon (52.74), Baglan (46.92), Deola (37.54), Yeola (27.22) and Kalwan (14.22).

Conclusions:

1. The area under rice crop is very low in percent in the drought prone areas of study area.
2. The area of rice crop is higher in the Igatpuri, Surgana, Trimbak and Peth tehsils which are the high rainfall areas of study area
3. The cropped area of wheat is higher in the Nashik, Niphad and Deola tehsil where irrigation facilities are adequate.
4. The area of Jawar is found decreasing rapidly in study area.
5. Bajra is one of the sole crop found in high amount in the drought prone areas of Nashik district.
6. The percentage of gross cropped area of Bajra and Jawar indicate and demarcate the drought prone areas of Nashik district.

References:

1. District Gazetter-Nashik district(1975): "Agriculture and Irrigation-Rainfall"
2. Wildtose John.A. (2000) Dry Farming for Sustainable Agriculture, Agrobios (India)
3. Gajhans D. S. (2007) Spatio-temporal Agricultural Land use in Latur District Thesis submitted to Dr. B.A.M.University,Aurangabad

