Research Paper Geography

Spatio-temporal Pattern of Grape Farming In Solapur District - A Geographical Analysis

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ABSTRACT

Grape (Vitis vinifera) is basically a sub- tropical crop. However, in India, grapes are cultivated for their excellence also under tropical conditions. Grapes are cultivated in an area of 64.3 thousand ha with a total production 1,630.7 thousand tons and productivity of 25.4 tons/ha. Because of special arbor training systems provided for grape cultivation in India, productivity is highest among the grape growing countries of the world. Maharashtra is a leading state in production of grapes in the whole country. With regard to agricultural land under grape cultivation and grapes production, Nasik and Sangli districts are at forefront in the state. Apart from these, grapes are also grown in the district of Ahmednagar, Pune, Satara, Solapur and Osmanabad. Nowadays, grapes are produced in Latur district of Marathwada also. However, Solapur district is ahead in the production of grapes in a scientific manner. In this paper an attempt has been made to analyze the spatio-temporal pattern of grape farming in Solapur District of Maharashtra.

Keywords : Spatial dimension, growth ratio, scientific manner. Cropping pattern, intensity

Introduction

The area and plantation of grapevine and its growth ratio is of immense importance. It reflects the spatial dimension of this particular crop controlled by a number of variables like physical and nonphysical determinants. The area and plantation of grapevine increased from year to year in the study region.

Objectives

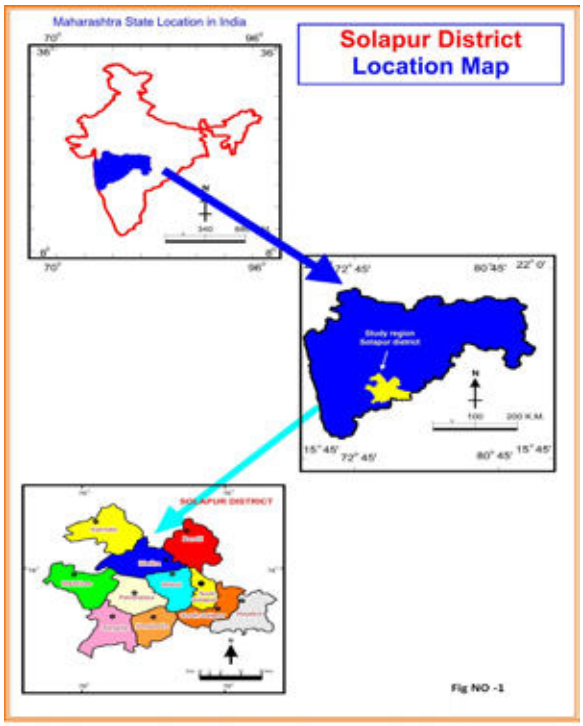
The major objective of this paper is to analyze the spatio-temporal changes in grape vine cultivation in the study area.

Study Area

Present study deals with the geographical perspectives of the grape cultivation in Solapur district. This district is one of the largest district in Maharashtra. The total area of Solapur district is 14895 sq.kms. divided into eleven tahsils. Out of the total area of Maharashtra Solapur district has 4.48% area. The Solapur district lies between by 17^0 05' North latitudes to 18^0 32' North latitudes and 74^0 42' East of 76^0 15' East longitudes. This district is surrounded by Ahmednagar district to the North, Osmanabad district to the North-east, Karnataka state to the South-east, Sangli district to the south-west, Satara district to the west and Pune to the West.

Database and methodology

For the present secondary data are used which is collected from District Socio-economic Abstract of Solapur District in the period of 1985 to 2005. In present investigation district is selected as in general and every tahsils in particular. The statistical equitation is used to understand the growth rate. The various figures and models maps are used for comparative study of spatial distribution. For measurement of Growth Rate following equation is used.



$$GR = \frac{P2-P1}{P1} \times 100$$

Where_ GR= Growth Rate

P1= Grapevine area/ plantation in the previous year.

P2= Grapevine area/ plantation in the present Year.

Explanation

A. Temporal change in Grape Cultivation

The grapevine is selected as the best alternative traditional fruit crop in the study region. But it has sustained well, responding to the environmental condition. Its cultivation as a commercial crop is very successful within a short period of time. The history of plantation and enlarging cultivation is not long. In 1960, the area of grapevine cultivation was only 100 to 300 hectares approximately. At that time started grape cultivation with Fakadi and Bhokari varieties. In 1977, Tas –A-Ganesh , a new variety of grapes was innovated from Thompson Muskat (by selection method) by Subash Arwe in Tasgaon tahsil of Sangli district. Farmers in the study region have cultivated this variety as a scientific manner. At the same time Nanasaheb Kale developed a new variety known as Sonaka in Nanaj (Solapur district) from Thompson Seedless. Farmers also try to change the cropping pattern in the study region and there is a the trend to grape fruit farming. Then in 1982, T R Dabhade invented a new variety of Thomson Seedless known as Manik Chaman and Nanasaheb Kale also developed a new variety Sharad Seedless which is come from Kismis Chorani. Owing to all these attempts the Government of Maharashtra decided to launch Horticulture Pogramme through Employment Guarantee Scheme in 1990 comprising a wide range of grape fruit crop. Under the scheme, they issued short term and long-term loans to grape growers to make orchards. All these attempts for cultivation of grapevine have kept the area pulsating with ideas of over all development, leading to greater intensity of cultivation of grapevine by establishing forward and backward linkages firmly related to export and internal development respectively.

Table No 1. Solapur District: Growth of Area and Production in grapevine

Year	Area in Hectors	Growth in percentage	Production in 00 tons	Growth in percentage
1987-88	876	-	92.1	-
1988-89	892	1.83	266.1	188.9
1989-90	1782	99.70	311.2	16.94
1990-91	1800	1	351.3	12.88
1991-92	1781	-1	400.4	13.97
1992-93	1893	6.2	435.7	8.81
1993-94	1893	0	375.9	-13.72
1994-95	2070	9.35	339	-9.81
1995-96	1812	-12.46	356.9	5.28
1996-97	1842	1.66	322.4	-9.66
1997-98	1365	-25.89	320	-0.74
1998-99	1470	7.69	359.8	12.44
1999-00	1743	18.57	474.70	31.93
2000-01	1743	0	453.84	-4.39
2001-02	1750	0.40	458.50	1.03
2002-03	1759	0.51	480.21	4.74
2003-04	1765	0.34	484.49	0.89
2004-05	1809	2.49	500.91	3.39
2005-06	1820	0.61	506.87	1.18

Source:- Agriculture Statistical Information of Maharashtra State (part II) p.p.- 148 & Report of Draksha Bhavan Solapur

Fig No 2.A

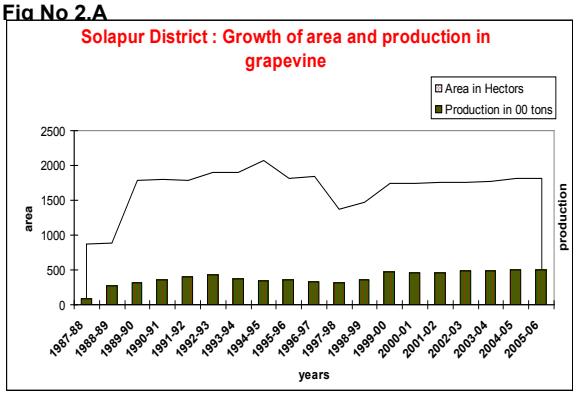


Fig. No 2. B.

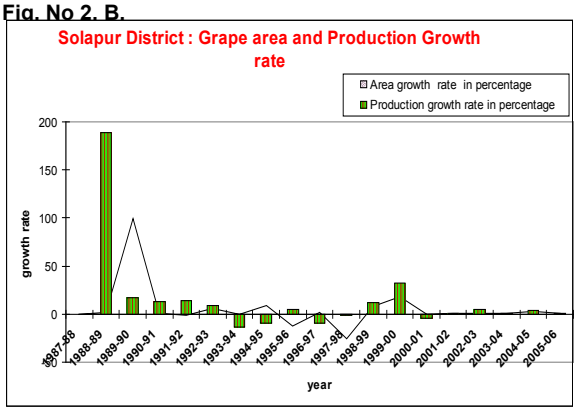


Fig 1.A, B and Table No 1 reveal that the temporal growth in the area under grapevine cultivation is 876 hectares in beginning of 1987-88, which jumped to 1789 hectares in 1988-99. In these two years, the growth rate is 99 percent. In the same period the production increased from 9210 tons to 266 tons and the growth rate is 188 percent. In the period form 1989-90 to 1994-95, the area and production are not increased more and the growth rate is 5 to 15 percent.

In the period from 1994-95 to 1997-98, the area of grapevine decreased from 2070 hectares to 1365 hectares and the decrease rate is 34 percent. The production of grapevine of also decreased from 43570 tons to 32000 tons in the same period and the decrease rate is 26 percent. The main reason is decreasing annual rainfall.

Then, there was a continuous increase in the production of grapes and area under grapevine cultivation up to 2006. But the rate of growing area is only 1 -2 percent and the production growth rate is 2-4 percentage in the study region.

B. Spatial change in Grape Cultivation

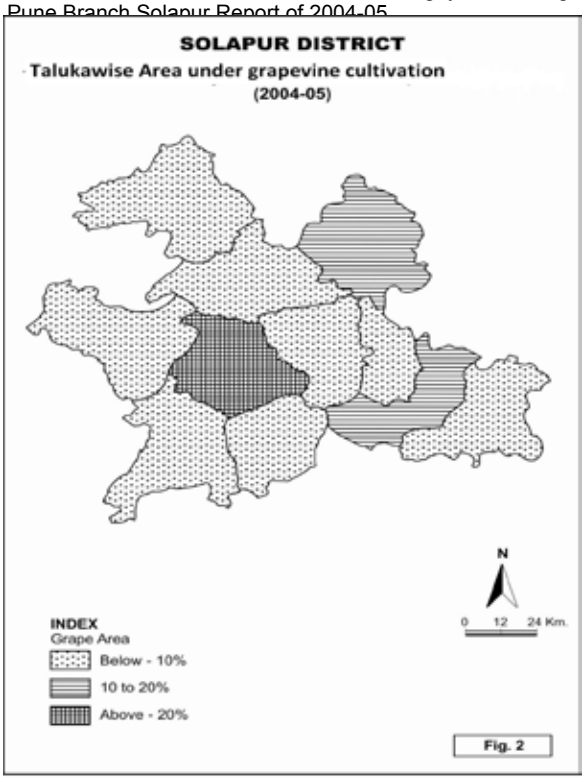
Grape farming is a highly specialized form of agriculture. Grape Fruit farming is always influenced by environmental, biological and socio-economic factor of the region. Besides there the slope, geographical location, height from the sea level, temperature, rainfall, forest, etc. The spatial variation of grape cultivation is uneven in Solapur District which is shown in Table No 2 and Fig No 2.

Table No 2
Solapur District: Talukawise area under grapevine cultivation (2004-05)

Taluka	Total	Percentage to total
N Solapur	1500	8.62
S Solapur	2000	11.49
Barshi	2500	14.37
Pandharpur	8500	48.85

Sangola	500	2.87
Malshiras	300	1.72
Mangalwedha	400	2.30
Mohol	400	2.30
Karmala	300	1.72
Madha	500	2.87
Akkalkot	300	1.72
Total	17400	100

Source: - Maharashtra state Draksha Bagayatdar Sangh Pune Branch Solapur Report of 2004-05



The analysis reveals that the large area (Above 20 % to total) is observed in Only Pandharpur Tahsil. Pandharpur tahsil is located in middle part of the district in where shallow, medium deep soil, Bhima River, Ujani Canal, Nira Canal is observed. This situation is responsible for high growth of grape cultivation. The moderate area means 10 to 20 percent area is observed in all over district expecting Barshi and North Solapur. This figure is clear shows that all tahsil are trying to increasing grape area because it is large beneficial commercial crop now. So farmers of the region trying to improve grape quantity and quality by using hybridization, Hi-tech intervention and precision farming.

Conclusion

Grapevine farming has started in Solapur District at the beginning of 1970. An attempt made by farmers of the district for wide expansion of grapevine cultivation noteworthy. It is cultivated in different way by farmers according to purpose and variety of grapevine. The area and plantation of grapevine increased from year to year in the study region. But in the period 1994 to 1998, rate of area and production is decreasing slightly. The spatial distribution of grape cultivation is observed uneven. The grape cultivation is highly cultivated in Pandharpur and lowest in Barshi and North Solapur Tahsil of District.

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