Cosmos Multidisciplinary Research E-Journal
Online Available at www.cmrj.in
Recognized International Peer Reviewed Journal
Impact Factor 5.3
ISSN No. 2456-1665

Crop Diversification in Satara District: A Geographical Analysis

Dr.Arun. A. Patil
Assistant professor,
Department of Geography,
Mahavir Mahavidyalaya, Kolhapur.

Mrs. Priyanka. S. Dhumal
Ph.D. Research student,
Shivaji University,
Kolhapur

.Abstract:-

In the present research paper, an attempt has been made to analyze the talukas wise crop diversity in Satara district at micro level. Crop diversity is an important component of agricultural geography. Crop diversification is the practice of growing different types of crops in a particular agricultural area. Crop diversification is a perfect way to change the traditional cropping patterns of the agricultural sector. A total of six major crops have been selected for the study. In this research essay, an attempt has been made to analyze the high class as well as the low diverse class in Satara district. For this secondary data has been collected from various published reports. In this research essay, an attempt has been made to analyze the high class as well as the low diverse class in Satara district. For this secondary data has been collected from various published reports. Gibbs and Martin's research method has been used to analyze crop diversification.

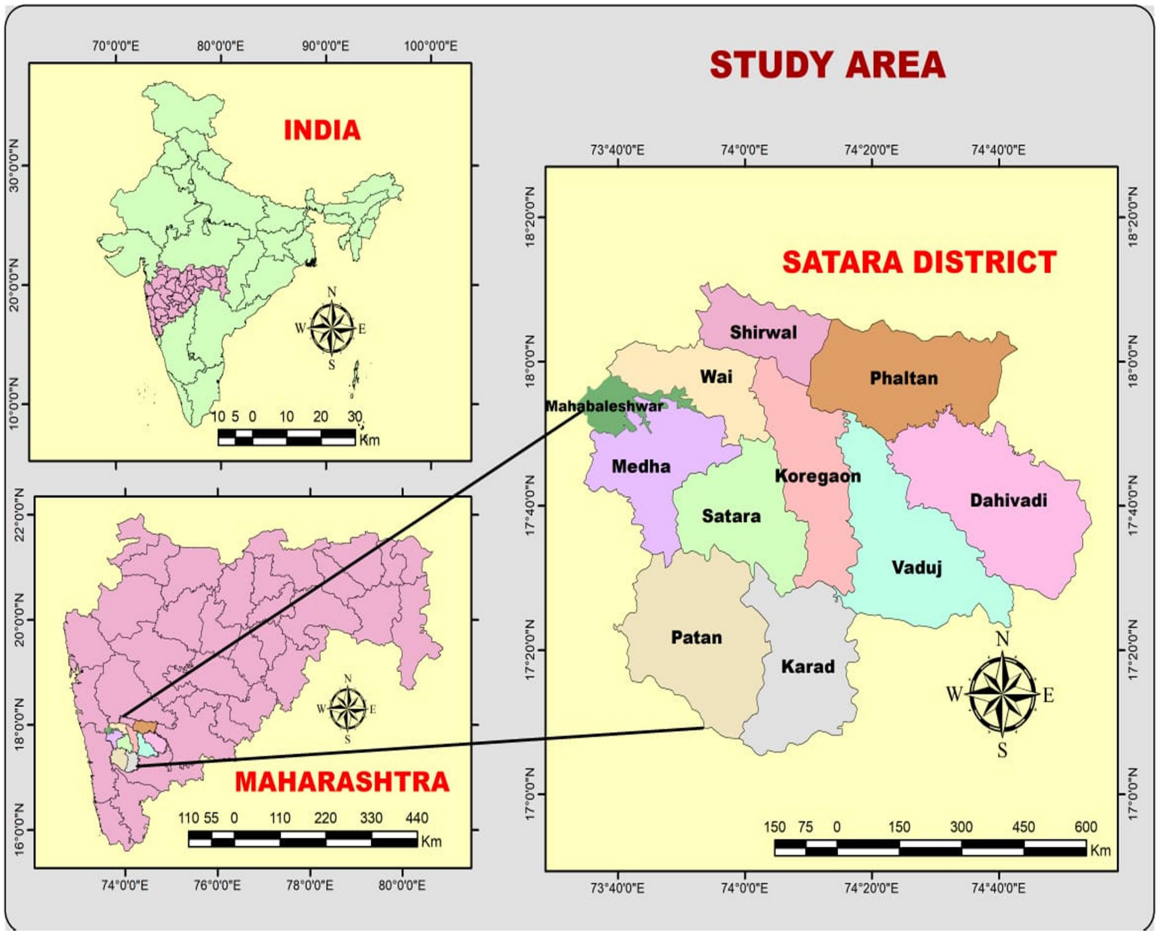
Keywords: - Crop Diversity, Agriculture land, Crop diversification Index

Introduction:-

Indian Situation Crops are various important events from which the farmer tries to meet most of the demands of his family. Like crop concentration, it is very important to study crop diversity in study of agriculture land use. Crop concentration is the process of producing a variety of crops while crop diversification is the process of obtaining different types of crops from the soil. Crop diversity in India is seen as a general shift (Ayer 1969). Physical, social and economic factors affect the cropping system in the study area. Crop diversity is very important in any type of agricultural land use planning. Diversification is important in agriculture to increase productivity Diversification mainly involves changing one crop or the other. It has a higher number of crops together. Crop diversity is increasing agricultural productivity, allowing for crop rotation, showing high results between double cropping.

Study Area:-

Satara is a district in the western part of Maharashtra. The total area of this district is 10,840 sq. Km. the latitude of this district is $17^{o}05'$ to $18^{o}11'$ north and the longitude is $73^{o}33'$ to $74^{o}54'$east. Before 1971, Satara district had 9 talukas but now it has 11 talukas and 1739 villages. Satara district is bounded on the north by Pune, on the east by Sholapur, on the south by Sangli, and on the west by Raigad and Ratnagiri. Satara district has Sahyadri and Mahadev mountain ranges. Krishna and Bhima, Neera are the main river systems. The average elevation of the Neera River is about 600 m above sea level. Satara district has popular hill stations like Mahableswar and Pachgani. Satara district seems to be a unique region due to its climate and various vegetation. Mahableswar in Satara district is a high rainfall region with a rainfall of about 6000mm. Man tahsils is a low rainfall region with an annual rainfall of around 500mm. Satara district in western Maharashtra is an important agricultural district. The major crops grown in the district are sorghum, rice, millet, sugarcane, oilseeds and pulses.



Objective:-

To analyze the crop diversification pattern in Satara district.

Database and Methodology:-

Gibbs and Martin Index of Crop Diversification (1962) have been used to study the extent of crop diversification. The present study is based on secondary data collected from different published sources for the years 2010-10, 2015-16, and 2020-21. Information is obtained from Socio-Economic Abstract, Census Handbook. The Gibbs and Martin index has proven to be the most suitable for diversity calculations. Gibbs and Martin Index of diversification formula are given by:

$$\textbf{Index of Diversification} = 1-\sum x^2 / (\sum x)^2$$

Measurement of Crop Diversification:-

A change in crop diversity is seen in Satara district. Due to irrigation facilities, chemical fertilizers, seeds etc., the crops which have become more profitable over time are increasing. If the crop diversity of Satara district is analyzed at the tahsils level, a difference is seen. The variation in index values from 1010-11 to 2015-16 to 1019-20 is significant though not significant. Millet is a traditional crop of Satara district. Areas of cash crops in the study area are seen to be taken for economic gain.Therefore; Millet production area and productivity have been affected.

About 68% of the area is covered by pulses, millet, and sorghum. The rest of the area is divided into other crops, resulting in a major decline in the area of all crops. Due to increased prices of oilseeds and vegetables, there is a decrease in crop diversification index. About 80% more cropland is occupied in this crop area. Because of the more or less amount of rainfall in the study area, different soil types favor the cultivation of cereals and oilseeds. Therefore, oilseeds and cereals have become important crops in the study area.

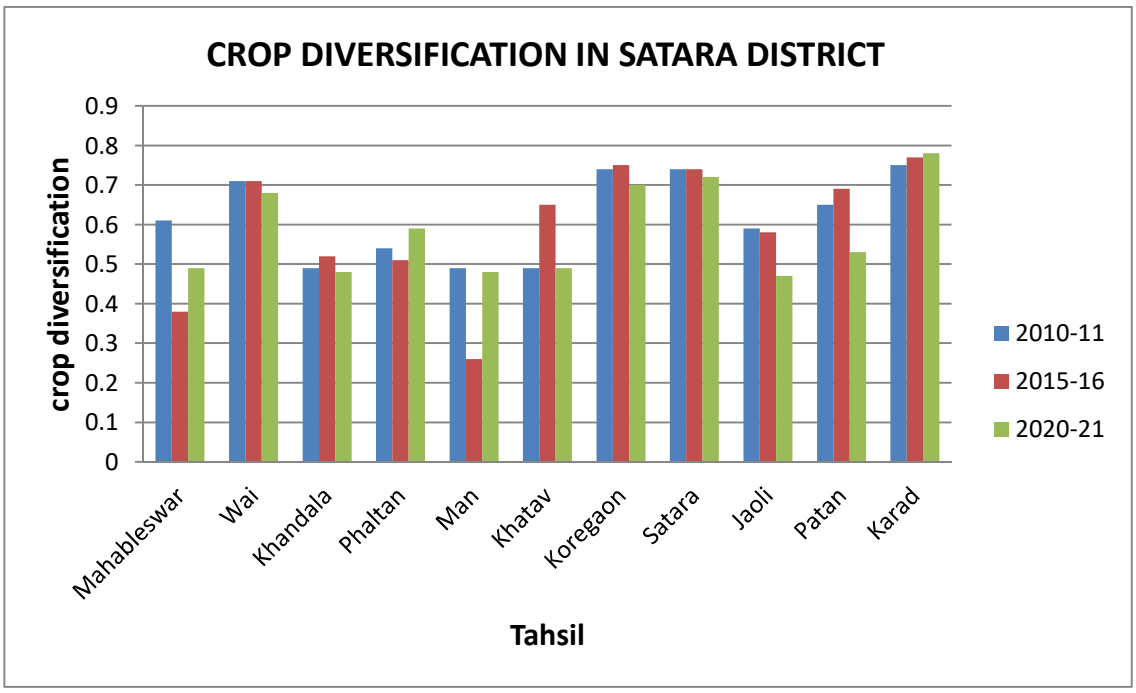
Crop diversity index of Satara district increases from 0.62 in 2010-11 to 0.63 in 2015-16. In2020-21 it is (0.66). Considering the Karad, Satara and Koregaon tahsils in the study area, crop diversity seems to be high in this area. Considering the crop diversity indices for the selected period (2010-11, 2015-16, 2020-21) in the study area, Wai (0.71), Koregaon (0.74), Satara (0.74) and Karad (0.75) The diversity index is found to be higher in the tahsils. Considering the medium crop diversity index, Patan (0.65) and Phaltan (0.54) tahsils in 2010-11, Khatav (0.65), Patan (0.65) tahsils in 2015-16 and Patan (0.59) tahsils. , Phaltan (0.59) tahsils includes 2021-22. Low crop diversification index in Satara

district are Khandala (0.49), Man (0.49) tahsils in 2010-11 and in 2015-16 including tahsils are Mahableswar (0.38) and Man (0.28). From this information, it can be seen that when crop diversity is analyzed at the tahsils level of Satara district, there is a difference that the difference in crop diversity indices is not high but significant.

Table-1 Tahsilwise Crop Diversification Index of Satara District (In Percentage)

Sr.No	TAHSIL	YEAR		
		2010-11	2015-16	2020-21
1	Mahableswar	0.61	0.38	0.49
2	Wai	0.71	0.71	0.68
3	Khandala	0.49	0.52	0.48
4	Phaltan	0.54	0.51	0.59
5	Man	0.49	0.26	0.48
6	Khatav	0.49	0.65	0.49
7	Koregaon	0.74	0.75	0.70
8	Satara	0.74	0.74	0.72
9	Jaoli	0.59	0.58	0.47
10	Patan	0.65	0.69	0.53
11	Karad	0.75	0.77	0.78

Source- District Socio-economic Abstract, Satara. (Crop area in given in hectors)



Conclusion:-

In this thesis, an attempt has been made to study the analysis of crop diversity at the tahsils level of Satara district. Considering the eastern part of the study area, the crop diversity is mostly in this area. Koregaon, Phaltan tahsils shows increased crop diversity due to the facilities available there. Millet is an important crop in the study area. The significant concentration of millet relegation the other crops to very lower position resulted in lower diversification.

Agriculture sector has developed in Satara district due to cropping methods, modern technology, and natural diversity. However, irrigation system is very necessary to increase the productivity of the land. Similarly, it is necessary to set up small and large scale agriculture-based industries for the farmers who have small and medium sectors. Also, it is necessary to encourage farmers for developed agricultural methods, biotechnology, soil conservation, animal husbandry, crop rotation.

Reference:-

Ayer, N.P (1969): Crops Region of Madhya Pradesh: A Case Study in Methodology, Geography Review of India, Vol: 31,

Gupta, R.P. and Tewari, S.K. (1985). Factors affecting cropdiversification. An Empirical analysis. *Indian J. Agril.*

Econ., 40(3) : 304-309.

Gibbs, J. Martin, W (1962) "Index of Diversification," Taken from Quantitative Techniques in Geography: An Introduction,R. Hammond and P.S. McGullagh, Clarendon Press, Oxford, p.21.

Agrawal, G.D. (1958). Input output relationship in Indianagriculiture. *Indian J. Agril. Econ.,* 12(1): 27.

Satara District Censes Handbook, 2011, District Socio-economic Abstract, Satara.