International Journal of Advance and Applied Research
www.ijaar.co.in
ISSN – 2347-7075 Impact Factor – 7.328
Peer Reviewed Bi-Monthly
Vol.9 No.6 July – Aug 2022

TO STUDY THE GEOGRAPHYCAL ANALYSIS OF TAHSILWISE CROP DIVERSIFICATION IN PARBHANI DISTRICT (MS)

Dr. Hanumant A. Gandhale
Associate Professor & Head, B. Raghunath College, Parbhani
***Corresponding Author*- Dr. Hanumant A. Gandhale**
Email- hgandhale.2010@gmail.com
DOI- 10.5281/zenodo.7070475

Abstract:

The volume of change has studied for twelve years in present paper. Crop diversification grows on large number of crops which are practiced in rain fed land to reduce the risk factor of crop failures either of drought or less rain. Raising a variety of crops on arable land is known as crop diversification. It is the reflection of physical, socio economic and techno organization inputs. Crop diversification is generally viewed as a shift from traditionally grown less remunerative crops to more remunerative crops. The crop diversification takes place due to governmental policies and crop selection and attitude of farmers. Market, infrastructural development and certain other price related supports also induce crop diversification. The higher profitability and production the stability induce crop diversification, in case of example, sugarcane replacing rice and wheat. Crop diversification indicates multiplication of agricultural crops which involves intense competition for region, scope for crop rotation and effect of double cropping. The greater the competition, higher the magnitude of diversification, while lesser the magnitude of diversification greater the trend towards the specialization where emphasis on one or two crops. In most of the extensive agricultural parts in world agricultural diversification, it is a common feature due to irrigation, use of fertilizers and pesticides, high yielding varieties, mechanization and technology. Besides climate, farmer's attitude and local surroundings are forced farmers for crop diversification. In this paper an attempt has been made to analyse the crop diversification at district level in Parbhani District of Maharashtra. Crop diversification gives a wider choice for production of variety of crops in any region in order increase production related activities. It is just opposite of crop specialization. The crop diversification was studied for twelve years (2001 to 2012) in order to find out crop diversification. The diversification index ranged Parbhani (20.55) in 2001-2006 while in year 2007-2012 it ranged Parbhani district (21.95) of course diversification of agriculture varies from one region to another for which responsible factors are more or less variation in resources endowment, infrastructure level and market accessibility crop diversification of food crops and oilseed crops.

Key Word: *Volume of change, Crop diversification, Index of crop diversification,*

Introduction :

The volume of change has studied for twelve years in present paper. Crop diversification indicates multiplication of agricultural crops which involves intense competition for region, scope for crop rotation and effect of double cropping. In most of the extensive agricultural parts in world agricultural diversification, it is a common feature due to irrigation, use of fertilizers and pesticides, high yielding varieties, mechanization and technology. Besides climate, farmer's attitude and local surroundings are forced farmers for crop diversification. The crop diversification takes place due to governmental policies and crop selection and attitude of farmers. Market, infrastructural development and certain other price related supports also induce crop diversification. It is the reflection of physical, socio economic and techno organization inputs. Many geographers and economists have applied

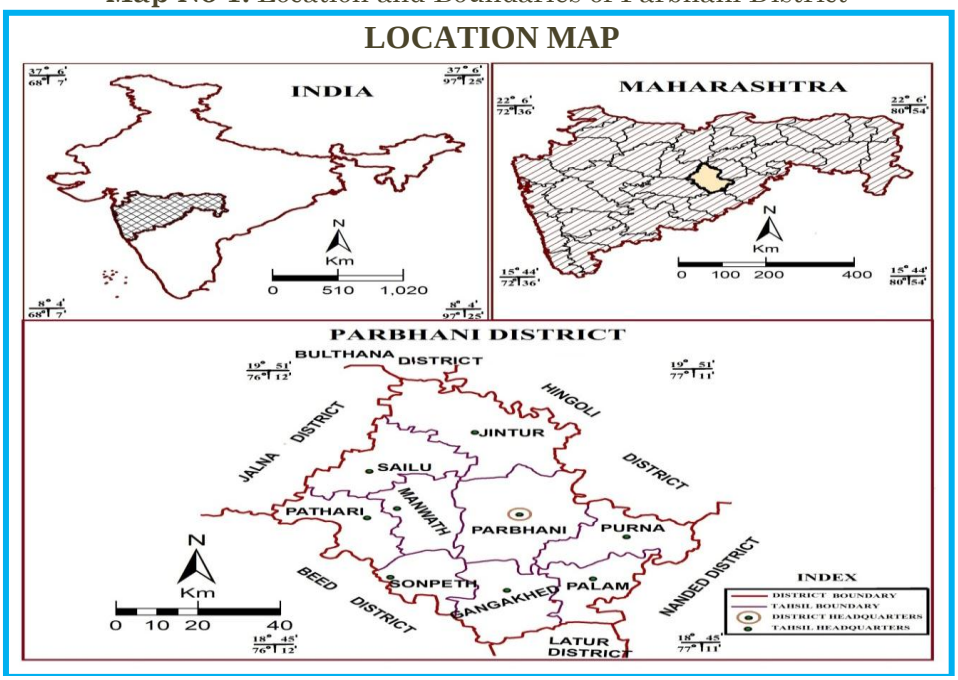
diversification concept in verity of sense. Clean (1930) initially applied this concept in order to identify the degree of diversification and concentration in manufacturing field. Later on, Tree (1938), Horence (1942) and Rainwald (1949), Gibbs-Martin (1974) have used this concept of diversification for computing measurement of diversification of employment in industry.

Bhatia in 1965 has applied crop diversification technique in India to understand crop cultivation. This technique provides a method for generalizing relation between the relative strength and number of crops grown in study region. In this formula he has considered the cropped area for computing crop diversification. He considers only those crops that individually occupy ten percent or more of occupied area in regional unit. Bhatia's formula was modified by Jasbir Singh (1976) and Ayyer (1969). Crop diversification is generally viewed as a shift from traditionally grown less remunerative crops to more remunerative crops. The data regarding crop diversification have obtained for 2000-2001 to 2011-12 over a period of 12 years from Department of Revenue, Agricultural Department of Parbhani district. These obtained data was later on converted into percent to total geographical area and then categorized into various groups for identification of crop diversification.

The Study Area:

Parbhani district is selected for present study. The choice of topic under investigation is influenced by many considerations. Firstly Parbhani district comprising the nine tahsil of Maharashtra state has a significant location on south-east of Maharashtra plateau. Nine tahsil are considered for the study region in Parbhani district is covered by rough topography and the remaining part have flat surface. Balaghat range is southern part in Gangakhed and Palam tahsil. Purna and Godavari rivers basin are useful for agricultural activities and Ajanta range in northern part in Jintur tahsil. All these consideration motivated the author turn his attention this region and its agricultural geography. Parbhani district located between $18^{0}45'$ north to $20^{0}01'$ North latitudes and $76^{0}13'$ east to $77^{0}29'$ East longitude (Map No.1). The area of study region is 6511 km^2, which is 2.11 percent of the whole area of the state. The population in the study region is 1527715 (2001 census) and 1836086 population in (2012 census) which is 1.63 percent of total population in Maharashtra.

Map No 1. Location and Boundaries of Parbhani District



Objective Of The Study:

The present research Paper has been undertaken to make on in-depth and comprehensive study of Crop diversification in Parbhani district by evaluating following objectives:

1. To study the regional variation in Crop diversification of study region from 2001-2006 and 2007-2012 .
2. To study the Crop diversification of study region for twelve years
3. Suggesting remedial measures for better Crop diversification of study region.

Data Base And Methodology:

The primary and secondary data obtained from socio-economic review, district census, were processed and presented by statistical and cartographic techniques, not only basis of primary and secondary data but with the help of various statistical and cartographical methods and techniques, researcher studied spatial as well as temporal changes in area under Crop diversification in Parbhani district From 2001 - 2012 for the present research paper work author has been used the following method to calculate different aspects.

Explanation:

Crop diversification in Parbhani district is generally viewed as a shift from traditionally grown less remunerative crops to move remunerative crops. The crops shift also takes place due to government polices and thrust on some crops over a given time, for example creation of the technology mission on oilseed to give thrust on oilseed production. Market infrastructure development and certain other price related also aid in crop diversification. Crop diversification- An effective strategy for achieving food and nutrition security, poverty alleviation, employment generation, judicious use of land and water resources, sustainable agricultural development and environmental improvement from low value to high value crop, from water loving to water saving crop, from single crop to multiple or mixed crop. For evaluating the extent of diversification at two points of time during 2001-2006 and 2007-2012 the Bhatia's methods diversification Index which provides a clear dispersion of commodities in a geographical region has been computed for nine thasils. Bhatia's formula applying to work out crop diversification for the study region is given as:

$$\textbf{Index of crop Diversification} = \frac{\text{Percentage of total cropped area in 'n' crops}}{\text{Number of 'n' crops}}$$

Where: 'n' indicate the crops which are individually occupy 10 percent or more of the total cropped area.

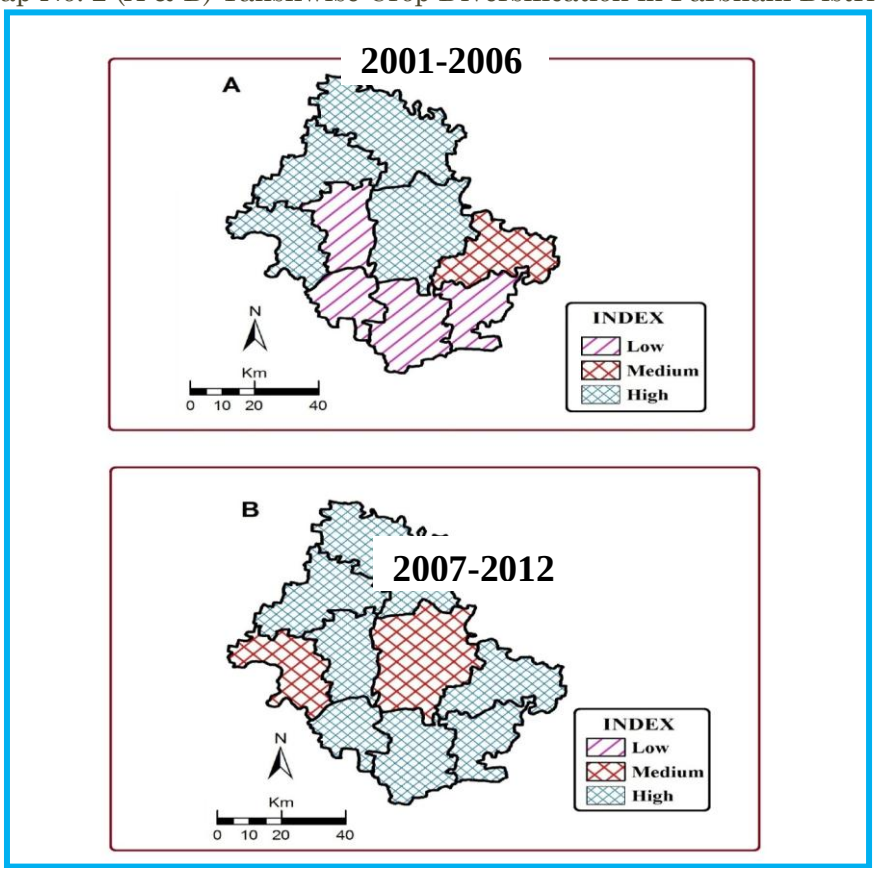
Table : Crop diversification in Parbhani district.

Thasils in Parbhani District	2001-2006			2007-2012		
	Number of crops	Area in Percent	Index of Diversification	Number of crops	Area in Percent	Index of Diversification
Parbhani	3	61.64	20.55	2	50.83	25.42
Gangakhed	2	73.31	36.66	3	68.59	22.86
Pathri	3	65.02	21.67	2	59.38	29.57
Jintur	4	81.78	20.45	3	67.77	22.59
Purna	3	87.33	29.11	3	60.76	20.25
Palum	2	70.27	35.14	3	67.90	22.63
Sailu	3	66.37	22.12	3	70.82	23.61
Sonpeth	2	68.02	34.01	3	68.47	22.82
Manvat	2	61.76	30.88	3	68.83	22.94
Parbhani District	2	59.38	29.69	3	65.84	21.95

Source-Author computed.

The table reveals the fact that out of Nine thasils in Parbhani district. The diversification index ranged Parbhani (20.55), Gangakhed (36.66), Pathri (21.67), Jintur (20.45), Purna (29.11), Palum (35.14), Sailu (22.12), Manvat (30.88) and Sonpeth (34.01) in 2001-2006 while in year 2007-2012 it ranged Parbhani (25.42), Gangakhed (22.86), Pathri (29.57), Jintur (22.59), Purna (20.25), Palum (22.63), Sailu (23.61), Manvat (22.94) and Sonpeth (22.82) and Parbhani district (21.95) of course diversification of agriculture varies from one region to another for which responsible factors are more or less variation in resources endowment, infrastructure level and market accessibility crop diversification of food crops and oilseed crops. Map 2 shows that the indices or crop diversification for the period i.e. 2001-2006 and 2007-2012 respectively. There has been remarkable variations in crop diversification during the period under reported. Cropping patterns are instantly noticeable.

Map No. 2 (A & B) Tahsilwise Crop Diversification in Parbhani District



It presents regional distribution of patterns of crop diversification grouped into three categories:1) Area of high diversification (Below 25%) 2) Area of moderate diversification (25% to 30%) 3) Area of low diversification (above 30%).

Areas of high diversification were observed in Parbhani, Pathri, Jintur and Sailu tahsils whereas area of low diversification were found in Gangakhed, Palum, Sonpeth and Manvat tahsils and area of moderate diversification was registered in only Purna tahsil, Parbhani district in the study region during the period of 2001-06 (Map No. 2A). Area of high diversification were found in Gangakhed, Jintur, Purna, Palum Sailu, Sonpeth and Manvat tahsils whereas the area of moderate diversification were in Parbhani and Pathri tahsils. No area of low diversification in the study region during the period of 2007-2012. High to low area of crop diversification were not recorded in any tahsils. High to moderate changes were observed in Parbhani and Pathri tahsils and low to high area crop

diversification was recorded in Gangakhed, Palum, Sonpeth and Manvat tahsils whereas moderate to high area of crop diversification were observed in Purna tahsil and Parbhani district. No change in crop diversification was experienced in Jintur and Sailu tahsils during the period under study (Map No.2B). Diversification between low productivity to high productivity crops is a must for the tahsils but cereals dominated and productivity has remained low despite very favourable soil, water and climate conditions.

Considerable variation, exists in magnitude and growth of diversification both hectares and within thasils due to difference in the structural variables such as rainfall. The adoption of agricultural technology- high yielding varieties, fertilizers use and mechanization pattern of crop diversification may be classified as field crops plantation crops, commercial crops, floriculture crops, grasses, condiments and spices, medicinal and aromatic plant. In recent years in Parbhani District horticulture which includes vegetables, fruits spices floriculture production has been recognized as a important avenue for diversification in agriculture in an eco-friendly manner through efficient land use optimum utilization of natural resources and creation of employment opportunities. The Parbhani district agriculture is gradually diversifying to high value food commodities. This shows that there is immense implementation of crop diversification. The production in case of Groundnut has increased in Gangakhed tahsil while Javari, Groundnut in Jintur tahsil, Groundnut in purna tahsil, groundnut and Cotton in Palum tahsil, Javari, Groundnut in Sailu, Tur in Manvat and Groundnut in Sonpeth tahsil has increased remarkably during 2007-2012.

Conclusion:

1. High to moderate area of crop diversification was registered in Parbhani and Pathri tahsil and low to high area crop diversification was observed in Gangakhed, Palum, Sonpeth, Manvat tahsil whereas moderate to high area of crop diversification were noticed in Purna tahsil in the Parbhani district during the 2001-2006 to 2007-2012. Crop diversification in Parbhani district is generally viewed as a shift from traditionally grown less remunerative to move remunerative crops.
2. Areas of high diversification were observed in Parbhani, Pathri, Jintur and Sailu tahsils.
3. The Parbhani district agriculture is gradually diversifying to high value food commodities.
4. Therefore, farmers in this area should be guided and trained for the advanced method of irrigation such as drip, sprinkler etc. which saves water and decreases threat of salinities. Purna, Parbhani, Jintur and Sailu tahsils have scarcity during summer season. It is suggested that, farmers in these tahsils should use drip irrigation. Overdoses of chemical fertilizers are responsible for soil degradation in Pathri, Gangakhed tahsils. The use of organic agriculture and fertilizer management programme is one of prime requirement in study region.

Reference:

1. Census of India – 2011.
2. Mankar S.G. (2008) : 'Agricultural Land Use Pattern in Mulshi Tahsil, Pune district, Deccan Geography Vol. 46 No. I, June 2008, PP 85-91.
3. Shaffi M. (1960): 'Measurement of Agricultural Efficiency in Uttar Pradesh, Economic Geography, 36(4), pp.296-305.
4. Sharma P.R. (1978): 'Special Characteristics of Landuse and Its Efficiency of Chhattisgarh Region', National Geographer, Vol. XIII No. I, PP 83-89.
5. Ali Mohammed: 1978 Studies in Agricultural Geography, Rajesh Publication, New Delhi 1978, Pp.1-6.
6) Socio-Economic Reviews and District Statistical Abstracts in Parbhani district (2001- 2012).