Journal of Advances and Scholarly Researches in Allied Education
Vol. 15, Issue No. 12, December-2018, ISSN 2230-7540

Illustration and Finding Solution for Using Better Land in Crop Combination Regions

Sneh*

Geography (UGC NET)

Abstract – The investigations of crop combination regions comprise an imperative part of agricultural geology as it gives a decent premise to agricultural regeneration. Through various regions may have distinctive atmosphere and soil conditions point and destinations of the investigation are to discover the crop combination regions. The essential destinations are to think about the vital crops and positioning of crops combination regions. Horticulture in a manner is the aftereffect of human endeavours connected in the abuse of land assets towards the fulfilment of one of man's fundamental needs, nourishment. Despite the fast development of businesses and service areas in India, farming still is an essential financial action, utilizing 62 percent of absolute labourers in 2001(Maharashtra 64 percent in 2001).In this paper an endeavour has been made to break down crop combination regions in study territory. Crop combination is one of the strategy outlining agricultural regions. Ten noteworthy crops have been consider for examination. The investigation depends on essential sources. The Rafiullah's Crop Combination Method is utilizing for the examination the crop combination regions. The elements like precipitation water system and so forth influence the crop combination. In Phaltan Circle, two crop combination regions are outline and four noteworthy crops are recognize these are jowar, Bajara, Sugarcane and Wheat.

Keywords: - Delineation, Land use, Crop Combination, Agricultural Region

----------X----------

1. INTRODUCTION

Horticulture in a manner is the consequence of human efforts connected in the abuse of land resources towards the fulfilment of one of man's fundamental needs, food. In spite of the quick development of industries and service divisions in India, horticulture still is an essential financial movement, utilizing 62 percent of complete workers in 2001 (Maharashtra 64 percent in 2001). After freedom, Indian government is giving more consideration for agricultural development through multiyear plans. Green upheaval is in charge of expanding production to nourish to population. Henceforth it is important to use each land parcel legitimately. Agribusiness gives crude materials to little just as extensive scale industries and many fare things (Davis, 1982) May agro-based industries give yield and employment to numerous people.

Precipitation is essential and instrumental in the event of Indian farming. The combination investigation was at first presented in geography by Weaver in 1954 for registering crop equation combination for Midwestern United States. What's more, the method can be connect to recognize and find areas sharing a significant extent of a solitary agricultural element or crop at higher position. The central of combination examination is, accordingly, guarantees to be an important device of measurable investigations in different fields of geography especially in agricultural geography. The present treatise has humble endeavour to think about the crop combination design in Phaltan Circle of Phaltan Tahsil for its better agricultural land use arranging.

The crops are generally grown in combination and it is ratily that a particular crop occupies a position of total isolation from other crops. The given aerial unit at gives point of time. The studies of crop combination regions constitute an important aspect of agricultural geography as it provides a good basis for agricultural regeneration. Through different regions may have different climate and soil conditions.

But each region of Induzvial to crops area useful for planners but it is even more important to view the integrated assemblage of various crop combination reference to the quandum or diversity of crops in a region in a specified period of time. For a comprehensive and better understanding of agricultural system the study of crop combination is of great significances and is essential for agricultural planning. The present study enlights to the crop combinations

Agribusiness has been polish in India since antiquated time. In spite of weighted efforts towards industrialization amid most recent three decades, agribusiness shapes spine of national economy. Ranchers are developing various assortments of crops in their homesteads as opposed to grow a solitary one. The conveyance example of crops in any region is a result of prevalence of certain crop or combination of crops that add to rise of an agricultural region. For appropriate execution of agricultural arranging programs, agricultural regionalization at smaller scale level is fundamental. In this undertaking, distinguishing proof and characterisation of crop combination assumes a vital role. Agricultural development is a multidimensional idea which incorporates an assortment of angles such grouping of land use, crop fixation and broadening, crop efficiency, business characteristics of horticulture, force of cropping, support of environmental balance, etc. The investigation of crop combination is indispensable to comprehend cropping example and dimension of broadening. The investigation of crop combination gives coherent premise to agricultural regionalization. The crops are for the most part develop in combinations and it is occasionally that a specific crop possesses a place of absolute segregation to different crops in a given area at a given time. The physical variables decide the state of the areas of crops, while the financial elements decide their degree. The government approaches numerous regularly legitimately or by implication impact choice to choose the crops to develop. The development of better water system offices, new assortments of crops could be present in the spot of traditional and unprofitable agricultural system.

2. STUDY AREA

The Phaltan Circle is one of the circles in Phaltan Tahsil comprising of 20 towns and one urban settlement. Phaltan Tahsil covering the piece of The Nira stream bowl is one of the financially prosperous Tahsils of Satara locale in southern Maharashtra. It lies between 17058' north to 1805'North scope and 74020' east to 74040'East longitude. It has complete land area of 1190 sq.km.with128 towns and one urban settlement (2011 statistics). The examination area encounters semi-bone-dry atmosphere. April, May and June are the most blazing a long time with greatest mean temperature of 39℃. Temperature progressively lessens in December and January with least mean temperature 12℃. The medium dark and profound dark soils show up inside examination area. The soil richness energizes developing different crops like Sugarcane, Jowar, Bajara, Wheat, Fodder Crops, Fruits, and Vegetables and so on. State parkway, significant locale and other street are real underlying foundations of transport. As indicated by 2011 registration the area has 342667 population, out of these 176250 are people and 1 66417 are females and thickness of population is 287 for every square kilometer. State expressway, real locale and different streets are significant courses of transport other than wide check railroad course in Phaltan Tahsil. Phaltan is a regulatory headquarter of this Tahsil.

3. REVIEW OF LITERATURE

Kadam M. D & Shinde S. D (2016) - Agriculture is the major financial action of peoples possessed in Sina waterway bowl. The idea of region is important in the investigation of agricultural geography. The significance of agricultural regionalization lies in the way that it gives a sound and systematic, ideal and sort out, and reasonable and reliable balance and clarification of agricultural practices in an area. Crop combination is one of the techniques for agricultural regionalization useful for investigation of agricultural practices and arranging at miniaturized scale level, for example, in Sina waterway bowl. In the present research paper, an endeavor made to portray crop combination regions in Sina waterway bowl of Maharashtra by applying Rafiullah's greatest positive deviation strategy. Stream Sina is a noteworthy left bank tributary of Bhima waterway of Krishna bowl. Differential crop combination regions and changes in it are the consequences of distinction in soil ripeness, water system offices made accessible and furthermore of rancher's changing pattern towards taking diverse crops in a season from a similar piece of field.

Sukumar B. and Ahalya Sukmar (2013) - examined morphometric and landscape investigation of the Payaswani waterway basin of Kerala and Karnataka states utilizing GIS. The examination area has covered 1342 km2. Inside this area, 42.02 percent is in the Kasaragod locale of Kerala state and 57.08 percent is in the Karnataka state. Land maps, SRTM information, Arc GIS, and Spatial Analyst Module were usefor the investigation. The vast majority of the examination area was influence by erosional landforms. The bifurcation proportion demonstrates that there was nontectonic movement in the lower region of the basin and largely, the landscape shows basic power over the landform development.

4. OBJECTIVE:

1) To delineate Crop Combination regions of study area

2) To suggest solutions for better land use in study area

5. METHODOLOGY

The Rafiullah's Crop Combination Method is use for the investigation. Rafiullah in 1965 has altered Weaver's method, presented another method known as “Most extreme Positive Deviation

Method" The statistical technique received by Rafiullah is increasingly exact and levelheaded, and along these lines, it is very prominent for delineation of crop combination regions. Rafiullah's Crop Combination Method (Maximum Positive Deviation Method).

Formula:

$$d = \sqrt{\frac{\sum D^2p - D^2n}{N^2}}$$

Whereas:

d = is the deviation,

Dp = is the positive difference from the medial value

Dn = is negative difference from the medial value and

N = is the number of crops.

As per this method, percent of all crops have organized in plunging request for 38 towns. The crops having area under 5 percent were exclude from the figuring and most extreme positive deviation of fluctuation was acquire. For monoculture, average esteem was considered at 50 percent for two-crop combination it is 25 percent, three crop combinations the esteem is 16.7 percent, for four it is 12.5 percent and for five crops it is 10 percent, etc. In present examination area, 10 crops were considers for calculation of crop combination region. The got consequences of crop combination have appeared in Fig.1 and Table-1 and 2.

6. DATA ANALYSIS AND RESULTS

- **Crop Combination Regions**

Table 1 Crop Combinations

Sr. No.	Village Name	Crop Combinations	Crops	
1	Waghoshi	2	Bajara	Jowar
2	Vadgaon	1	Jowar	
3	Korhale	1	Jowar	
4	Wakhari	1	Jowar	
5	Wathar-nim	1	Jowar	
6	Dhaval	1	Jowar	
7	Pirachiwadi	1	Bajara	
8	Sherewadi	1	Jowar	
9	Surawadi	1	Sugarcane	
10	Kharadevadi	2	Wheat	Sugarcane
11	Ghadgemala	1	Jowar	
12	Nandal	1	Bajara	
13	Jinti	2	Wheat	Sugarcane
14	Phartadvadi	1	Sugarcane	
15	Bhilkati	1	Sugarcane	
16	Nimbore	2	Wheat	Sugarcane
17	Dhavlevadi	1	Jowar	
18	Kashidvadi	1	Jowar	
19	Vadjal	1	Sugarcane	
20	Dalvadi	1	Jowar	
21	Upalave	2	Jowar	Bajara
22	Sawantvadi	1	Bajara	
23	Daryachivad	1	Jowar	
24	Jadhavnagar	1	Jowar	
25	Malvadi	1	Jowar	
26	Khadaki	1	Jowar	
27	Mirgaon	1	Jowar	
28	Tathvada	1	Jowar	
29	Manevadi	1	Jowar	
30	Zadakwadi	1	Jowar	
31	Hol	1	Sugarcane	
32	Sakharwadi	1	Sugarcane	
33	Veloshi	1	Jowar	
34	Tardaf	1	Jowar	
35	Miryachiwadi	1	Jowar	
36	Pharadvadi	1	Jowar	
37	Thakurki	1	Jowar	
38	Tawadi	1	Jowar	

Table- 2: Crop Combination Regions

Crops Combination Regions	Crops in Combination	No. of Villages	Percent to Total Village	Area in Hectares	Percent of Area
Monoculture	Jowar	24	63.15	5309	64.60
	Bajara	03	7.89	793	9.64
	Sugarcane	06	15.78	1030	12.53
Two crop Combination	Sugarcane + Wheat	03	7.89	729	8.87
	Jowar + Bajara	02	5.29	357	4.36
		38	100	8218	100

- **One Crop Combination Regions (Monoculture)**

Jowar, Bajara and Sugarcane have recognized as monoculture in Phaltan Circle of Phaltan Tahsil (Fig. - 1.2). These three crops are see in 33 towns as a monoculture. (86.82 percent to add up to towns) Among these three crops jowar is driving

crop developing most elevated coverage in 24 towns to be specific Vadgaon, Korhale, Wakhari, Phartadvadi, Bhilkati, Sawantvadi, Daryachivad, Wathar-nim, Dhavlevadi, Jadhavnagar, Dhaval, Pirachiwadi, Sherewadi, Surawadi, Kashidvadi, Malvadi, Ghadgemala, Nandal, Vadjal, Dalvadi, Khadaki, Mirgaon, Tathvada, Manevadi, Zadakwadi, Hol, Sakharwadi, Veloshi, Tardaf, Miryachiwadi, Pharadvadi, Thakurki, Tawadi, (Table-1.2). This crop is develop on 5309 hectares area. Jowar belt is move in north and southern piece of study region. Sugarcane is distinguished as monoculture in six town to be specific Upalave, Nimbore, Jinti, Kharadevadi, Waghoshi. Water system and fertile soil are central point for developing sugarcane along the bank of Nira River.

- **Two Crop Combination Regions**

Four crops have entered in two combinations regions. These crops are Sugarcane, Wheat, Jowar and Bajara, Fig.- 1.2 and Table-1.2 uncovers two crop combination regions in Phaltan Circle of Phaltan Tahsil. Sugarcane has biggest area entering in this combination with Sugarcane and Wheat (729 hectares). Two villages in study area have combination of Jowar with Bajara situated in north and southern parts in Phaltan Circle of Phaltan Tahsil. Gokhali is situate in west pieces of Phaltan Circle, which entered in two combination of Jowar with Sugarcane. This area is in dairy overwhelming area of Jinti, Nimbhore and Kharadewadi situated in northwestern piece of Phaltan circle entered in two-crop combination of Sugarcane with Wheat. Three villages have entered in two crops combination of Sugarcane with Wheat.

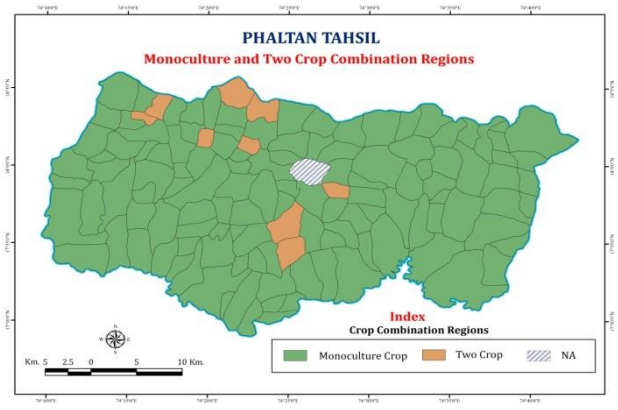

Figure 1: Crop combination

7. CONCLUSION

He change in appropriate cropping example and presentation of new crops which improve the soil richness are better basic to make agriculture progressively gainful and manageable (Gomatee, 2012). The crop combination examination uncovers that the water system facilities applied effect on the ranchers to grow few noteworthy crops relying on the aggressive costs in the market and their interest (Pralhad, 2009). In larger piece of in eastern Uttar Pradesh, nature of agriculture is still subsistent type. Therefore, the food grains involve more than 80 percent area of the GCA. Among the grains, wheat and rice rank first and second crop, individually. While the other important grain crop-maize remained at 3 rd rank among selection of oats. Sugarcane, potato and mustard are real money crops. Sugarcane involves the primary spot as a money crop since quite a while. By and by, sugarcane development found principally in regions of Saryupar plain and Ganga-Ghaghra doab, which is ascribed to positive environmental conditions and better water system facilities.

1) Phaltan Circle of Phaltan Tahsil has two crop combinations. These crops are Jowar, Sugarcane Wheat, Jowar and Bajara.

2) Jowar has the biggest area entering in this combination with sugarcane and Bajara.

3) Sugarcane development area is confronting the issue of soil saltiness.

4) Products of the soil crops can supplant the development of sugarcane crop in villages. By supplanting sugarcane, the issue of soil saltiness can be defeated and more pay can be create structure saline-soluble base soil.

5) Hol, Sakharwadi, Nimbhore, Bhilkati Phartadwadi and Surwadi villages are the dairy overwhelming areas of Phaltan Circle.

8. REFERENCES

1. Kadam M. D & Shinde S. D (2016) – “CROP COMBINATION REGIONS IN SINA RIVER BASIN: MAHARASHTRA”, nternational Journal of Research in Humanities, Arts and Literature (IMPACT: IJRHAL) ISSN (P): 2347-4564; ISSN (E): 2321-8878 Vol. 6, Issue 8, Aug 2016, pp. 343-350.

2. Ojha, Manish K. (2016). The Inter District Variations in Agriculture Development in Rajasthan. Ph.D. Thesis, Sardar Patel University.

3. Surwase, K.S. (2015). A Spatio-temporal Analysis of Agricultural Cropping Pattern of Phaltan Tahsil, Satara District (Maharashtra), Indian Streams Research Journal. Vol. 5, Issue 5.

4. Lata, Asha (2015). Agricultural Change during Post Reform Period in Haryana.

Ph.D. Thesis, Maharshi Dayanand University.

5. Husain, M. (2014). Systematic Agricultural Geography. Jaipur: Rawat Publications.

6. Todkari G.U. (2012). A Study of Crop Combination in Solapur District of Maharashtra. Journal of Crop Science, Vol. 3, Issue-1, pp. 51-53.

7. Ranjana (2012). Trends in Crop Diversification in Punjab-Haryana Plains: 1965-66 to 2005-06. Ph.D. Thesis, Punjabi University.

8. Mulani, M.S. (2009). "A Geographical Study of Land use Pattern in Indapur Tahsil, Pune District" Unpublished M. Phil. dissertation, Tilak Maharashtra Vidyapeeth, Pune.

9. Husain, Majid (2004). "Agricultural geography" Rawat Publication, Jaipur.

10. Siddhartha K. and Mukherjee S. (2003). A Modern Dictionary of Geography. Kisalaya Publication Pvt. Ltd., New Delhi, p.117.

Corresponding Author

Sneh*

Geography (UGC NET)

sneh123asiwal@gmail.com