



CROP COMBINATION REGIONS OF JALNA DISTRICT, MAHARASHTRA STATE, INDIA

REDE H.N.

Department of Geography, Shri Chhatrapati Shivaji College, Omerga-413606, MS, India.

*Corresponding Author: Email- hari_rede@rediffmail.com

Received: September 24, 2012; Accepted: October 06, 2012

Abstract- The crops are generally grown in combination and it is rarely that a particular crop occupies a position of total isolation other crops in a given areas unit at given set of time. An attempt is made here to study the crop combination regions of Jalna district. The study reveals that one tahsil has monoculture, four tahsils have two crop combinations and each one tahsil has three, four and five crop combinations in the year 1993-94. In the year 2007-08, monoculture region is not observed any tahsil of the district, the decrease in two crop combination and increase six and seven crops combinations reflect a clear trend to words the complexity of crop combination. Jowar is the dominant crop in the district, the crop combination regions are indicate the direct the direct impact of rainfall, soil and irrigation facilities.

Keywords- crop combination, monoculture, least deviation method

Abbreviations- J: Jowar, W: Wheat, Sc: Sugarcane, C: Cotton, G: Gram, Sn: Sunflower, M: Maize

Citation: Rede H.N. (2012) Crop Combination Regions of Jalna District, Maharashtra State, India. Journal of Crop Science, ISSN: 0976-8920 & E-ISSN: 0976-8939, Volume 3, Issue 3, pp-81-82.

Copyright: Copyright©2012 Rede H.N. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

Introduction

The study of crop combination regions constitute an important aspect of agricultural geography. Crop combination provides a good basis for agricultural regionalization for a comprehensive and better understanding of the agricultural mosaic of an agro-climatic region, the study of crop combination is of greater significance. In recent years, the concept of crop combination has enjoyed the attention of geographers and agricultural land use planners. Such type of study represent real situation of cropping pattern in the region.

Objectives

- To highlight on the spatio-temporal changes in crop combination regions of the district.
- To study the newly entered and disappeared crops in crop combination during the period under study.
- To analyze the percentage share of individual crop in crop combination of the district.

Study Area

Jalna district lies between 19°10'N. to 20°30'N. latitude and 75° 40'E. to 76°40' E. longitude. Roughly having the shape of palm, and comprises eight tahsils, namely Badnapur, Bhokerdan, Ghansawangi, Partur, Mantha, Jaffrabad, Jalna and Ambad. Out of total geographical area 84.21% (2007-08) land is covered by Net

sown Area. Physiography, rainfall, soil and drainage has deep impact on agricultural land use.

Database and Methodology

The present study is based on the secondary data, for the period 1993-94 and 2007-08. Eight crops are selected for the study. Data has been derived from the socio-economic review of the Jalna district. Tahsil is the basic unit for investigation. The crop data has been computed with the help of weaver's technique of crop combination. Which is expressed as:

$$\text{Standard deviation}(\delta) = \frac{\sqrt{Ed^2}}{n}$$

Where

d- is the sum of the square of individual deviations

n- is the number of crops in a given combination.

The result of the crop combination is presented by the choropleth method.

Result and Discussion

The considerable changes in Jalna district's crop combination is experienced during the study period. As the result of the application of weaver's technique five crop combination and seven crop combination regions are emerge out in 1993-94 and 2007-08 re-

spectively in the district. The tahsils falling into different combinations are given in [Table-1].

Table 1- Jalana District, Crop combination regions based a weaver's method (1993-94)

Sr. no.	Name of Tahsil	No. of Crops	Crop Combination
1	Bhokardan	2	J, C
2	Joffrabad	3	J, C, B
3	Jalna	4	J, B, C, W
4	Badhapur	1	B
5	Ambad	5	J, C, B, Sc, G
6	Ghansawangi	2	J, C
7	Partur	2	J, C
8	Mantha	2	J, C

Source: Compiled by Researcher

[Table-1] Shows that in the year 1993-94, monoculture region is marked in Badnapur tahsil, where as, two crop combination regions are recorded in four tahsils, namely Bhokardan, Ghansawangi, Partur and Mantha tahsils during the same period. It is the region of moderate to moderate high rainfall. The tahsil in monoculture region has less irrigation development, the Jowar is the dominant crop, the largest coverage of Jowar stands as first, followed by Bajara, wheat, cotton, maize, sugarcane, sunflower and gram. The favourable environment has been found to be suitable for this predominant crop. The areas under Jowar is confined in southern tahsils of Jalna district, i.e. Bhokardon, Ghansawangi, Partur and Mantha. Three crop combinations noticed only in Jaffrabad tahsil, while four and five crop combination experienced in Jalna and Ambad tahsils [Fig-1].

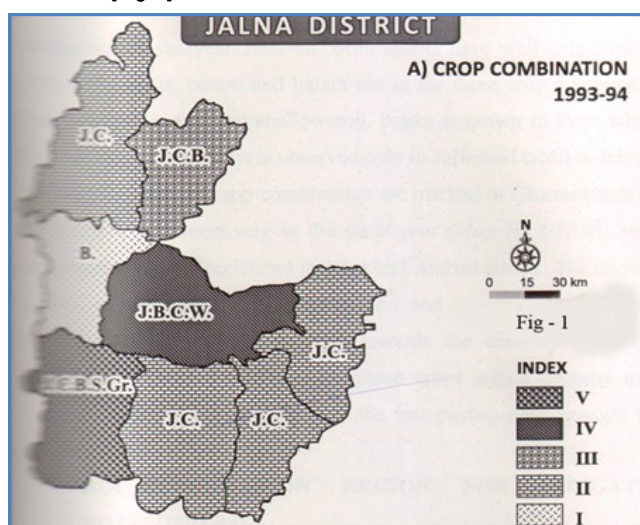


Fig. 1- Crop Combination In Jalna District In 1993-94

Crop Combination Regions (2007-08)

Monoculture region is not found any tahsil of the Jalna district in the year 2007-08, two crop combination region is found in Mantha tahsil, where as the soil and annual rainfall of this tahsil is suitable for Jowar and Cotton cultivation. Bhokardhan and Badnapur tahsils are newly added in three crop combination in the year 2007-08 [Table-2].

Both tahsils have well irrigation facilities and black soil, Jowar, Cotton and Bajra are in the three crop combination. The four crop combination is observed only in Jaffrabad tahsil in the same period.

Five and six crop combination regions are registered in Ghansawangi and Partur tahsils respectively [Fig-2]. Seven crop combinations are recorded in Jalna and Ambad tahsils in 2007-08.

Table 2- Jalna District crop combination regions based on weaver's method (2007-08)

Sr. No.	Name of Tahsil	No. of Crops	Crop Combination
1	Bhokardan	3	J, B, C
2	Jaffrabad	4	C, M, J, B.
3	Jalna	7	J, C, B, M, Sc, Sn, W
4	Badnapur	3	J, B, C
5	Ambad	7	J, C, B, Sc, W, M, Sn
6	Ghansawangi	5	J, C, B, Sc, M
7	Partur	6	C, J, Sc, W, M, Sn
8	Mantha	2	J, C

Source: Compiled by Researcher

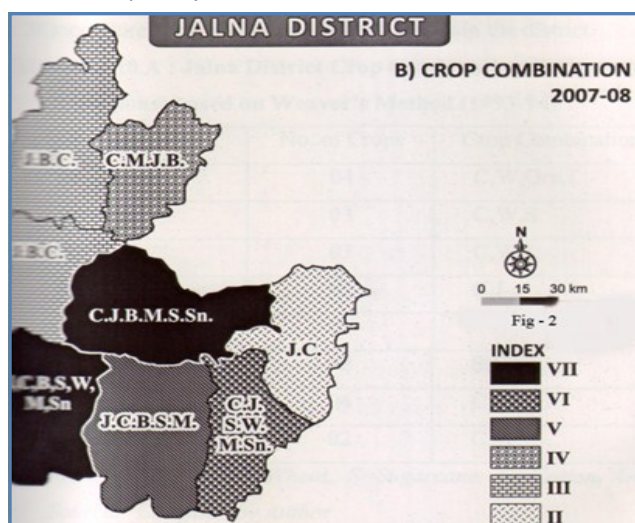


Fig. 2- Crop Combination In Jalna District In 1993-94

Conclusion

Southern part of Jalna district, irrigation development is high, so, cropping pattern is complex one, crops associate with one another. The decrease in two crop combination and the increase six, seven crops combinations, reflects a clear trend towards the copexity of crop combination, create emphasis on these crops, which become, more remunerative by diverting area from the less paying ones brought this change.

References

- [1] Ali Mohmad (1978) *Studies in Agriculture Geography*, 70-72.
- [2] Government of Maharashtra (1993-94) *Soci-economic Review and Statistical Abstract of Jalna District*.
- [3] Government of Maharashtra (2007-08) *Soci-economic Review and Statistical Abstract of Jalna District*.
- [4] Hussain (1979) *Agricultural Geography*, 16-17.
- [5] Sharma P.S. (1972) *Agricultural Regionalization of India*, 15.
- [6] Singh J. and Dhillon S.S. (1984) *Agricultural Geography*, Tata Mc Grow Hill., 106.
- [7] Weaver J.C. (1954) *Geographical Review of India*, 44(A), 175.