



## PATTERN OF CROP COMBINATION IN VIDHARBHA REGION

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### ABSTRACT:

India is currently undergoing rapid industrialization. As a result of which the agricultural area is decreasing in small areas. How should the pattern of cropping be done? It has been tried to meet the needs related to food grains of people in this paper. For study selected eleven district of Vidarbha i.e. Nagpur, Amravati, Bhandara, Gondia, Gadchiroli, Chandrapur, Buldhana, Yavatmal, Wardha, Akola & Washim, and according to the obtained criteria, Gadchiroli & Chandrapur field can help to change the monoculture of cropping pattern to the foodgrains needs of the people.

**Keywords :** *Ecological landscape, Crop, Vidarbha,*

India is currently undergoing rapid industrialization. As a result of which the agricultural area is decreasing in small areas. How should the pattern of cropping be done? It has been tried to meet the needs related to food grains of people in this paper. For study selected eleven district of Vidarbha i.e. Nagpur, Amravati, Bhandara, Gondia, Gadchiroli, Chandrapur, Buldhana, Yavatmal, Wardha, Akola & Washim, and according to the obtained criteria, Gadchiroli & Chandrapur field can help to change the monoculture of cropping pattern to the foodgrains needs of the people. Geographers have always been closely related with Spatio-temporal analysis of the regional & ecological landscape of the earth. The significance of regional analysis is really a core of all geographic investigation. The regional aspects of cultivation, Crop concentration and combination etc are fundamental. Different approaches have been applied for the delineation of crop combination. The combination analysis was originally introduced into geographical research by weaver in his outstanding study of 'Crop combination in Midwestern United State' (J.C. Weaver 1954). A simple scale of gradation was derived by

Jahnsen (1958) on the basis of the scale of the level of importance for each of the crops in East Pakistan (Bangladesh), where five crops are grown. This method is not suitable for Vidarbha region where numbers of crops are grown. Therefore in the present study an attempt is made to delineate the crop combination region by applying two crop combination methods i.e. minimum standard deviation method as introduced by Weaver (1954) and method of Doi's (1959). The resultant crop combination patterns are shown in *Table No.1* and by taking district as a unit for the average agricultural years 1990-96 and 2020-21.

### FINIDING & CONCLUSION :-

Table No.1 indicated that five crop combinations were noticed in study region during 1990-96 and 2020-21. Crop combinations are derived from rice, wheat, jowar, bajra, other cereals gram, tur, other pulses, groundnut, safflower, other oilseeds, cotton and sugarcane. By applying Weavers method six and seven crop combination were absent in the study region. Monoculture were found in Bhandara and Gadchiroli districts, whereas two crop combination in Akola, three crop combination in Chandrapur, eight crop combination in Nagpur,

nine crop combination in Wardha and eleven crop combination found in Buldhana, Amravati and Yavatmal districts during 1990-96 . No change was found in combination in Bhandara and Gadchiroli districts, whereas eleven to fourth shift was took place in Buldhana & Yavatmal districts, two to five in Akola, eleven to five in Amravati, Nine to eleven in Wardha, eight to twelve in Nagpur, three to ten in Chandrapur district during the period of investigation. Both physical and non-physical determinants of agriculture are responsible for the change in crop combination between 1990-96 and 2020-11.

By applying Doi's method six, seven, eight, nine to twelve crop combination were absent in the study region.

Two crop combinations were found in Buldhana, Akola, Amravati and Yavatmal districts, whereas monoculture found in Bhandara and Gadchiroli districts, three crop combinations in Wardha and Chandrapur districts and five crop combination found in Nagpur district during 1990-96. No change was found in combination in Wardha, Bahandara, and Gadchiroli district, whereas two to four shift was took place in Buldhana and Amravati district, two to five in Akola, two to three in Yavatmal and three to two in Chandrapur and five to two in Nagpur districts during the period of investigation. Table No. 2 indicates that, by applying average crop combination , monoculture were found in Bhandara and Gadchiroli districts, whereas two crop combination in Chandrapur, 6 crop combination in Bhandara, Amravati, Yavatmal and Nagpur districts during 1990-96. No change was found in average crop combination in Bhandara and Gadchiroli district, whereas 6 crop combination to fourth, 4, 3, and seven shift was took place in Buldhana, Amravati, Yavatmal and Nagpur districts, two to five in Akola, six to seven in Wardha and three to six in Chandrapur districts during 2020-21.

#### SUGGESTION :

There is a problem of regional imbalance in agriculture. To solve this problem Govt. of Maharashtra should give more funds to the backward districts of the Vidarbha region. It is necessary to test soils of the backward area and the farmers should have given adequate knowledge of modern technology, so that they can develop the agriculture. More funds should be sanctioned for construction of irrigation wells, tanks etc. New training centers must be started in backward tahsils of Vidarbha region, road railway routes & cooperative banks these facilities must be developed in backward tahsils of the Vidarbha region.

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**Table No. 1 - Crop Combination in Vidarbha Region**

Districts	Weaver's Method, No. of Crops		Doi's Method No. Crops		Average Method No. of Crops	
	1990-96	2020-21	1990-96	2020-21	1990-96	2020-21
<b>Buldhana</b>	C, J, Oo, T, W, Gm, Gr, B, R, Sc, So.	C, Op, So, J.	C, J.	C, Op, So, J.	C, J, Oo, T, W, Gm,	C, Op, So, J.
<b>Akola &amp; Washim</b>	C, J	C, J, Op, T, So.	C, J	C, J, Op, T, So.	C, J	C, J, Op, T, So.
<b>Amravati</b>	C, J, T, So, W, Gm, Gr, R, B, Oo, Sc.	C, So, J, T, Op.	C, J.	C, So, J, T.	C, J, T, So, W, Gm.	C, So, J, T,
<b>Yavatmal</b>	C, J, T, W, Gr, Gm, B, R, Sc, So, Oo.	C, J, So, T.	C, J.	C, J, So	C, J, T, W, Gr, Gm.	C, J, So.
<b>Wardha</b>	C, J, T, W, Gr, So, Gm, Sc, R, B, Oo.	So, C, T, J, Gm, W, Gr, Sc, Op, Oo, R.	C, J, T.	So, C, T.	C, J, T, W, Gr, So.	So, C, T, J, Gm, W, Gr.
<b>Nagpur</b>	J, So, C, T, R, Gm, Gr, W.	So, J, T, R, Gm, C, W, Gr, Op, Oo, Sc, Oc.	J, So, C, T, R.	So, J.	J, So, C, T, R, Gm.	So, J, T, R, Gm, C, W.
<b>Bhandara &amp; Gondia</b>	R.	R.	R.	R.	R.	R.
<b>Chandrapur</b>	R, J, C.	So, R, J, C, T, Oo, W, Gm, Op, Gr.	R, J, C.	So, R,	R, J, C.	So, R, J, C, T, Oo,
<b>Gadchiroli</b>	R.	R.	R.	R.	R.	R.

Source: Compiled by Researcher

**Abbreviations:** C :Cotton J, :Jowar Oo, :Other Oilseeds, T :Tur W :Wheat  
Gm, :Gram Gr :Groundnut, B :Bajra, R :Rice, Sc  
:Sugarcane, So :Soyabean, Op :Other Pulses, Oc :Other Cereals,

**Table No. 2 - Crop Combination in Vidarbha Region**

Districts	Weaver's Method, No. of Crops		Doi's Method No. Crops		Average Method No. of Crops	
	1990-96	2020-21	1990-96	2020-21	1990-96	2020-21
<b>Buldhana</b>	11	4	2	4	6	4
<b>Akola &amp; Washim</b>	2	5	2	5	2	5
<b>Amravati</b>	11	5	2	4	6	4
<b>Yavatmal</b>	11	4	2	3	6	3
<b>Wardha</b>	9	11	3	3	6	7
<b>Nagpur</b>	8	12	5	2	6	7
<b>Bhandara &amp; Gondia</b>	Mono	Mono	Mono	Mono	Mono	Mono
<b>Chandrapur</b>	3	10	3	2	3	6
<b>Gadchiroli</b>	Mono	Mono	Mono	Mono	Mono	Mono
<b>Vidarbha</b>	5	5	2	2	3	3

*Source: Compiled by Researcher*