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Research Paper

A study on changes in the cropping pattern in Chandrapur district

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ABSTRACT

An attempt has been made to study the extent of change in cropping pattern over a period of time in Chandrapur district of Vidarbha region of Maharashtra. The study was based on time series data for a period of 11 years beginning from 1998-99 to 2008-09. The cropping pattern was measured by Spearman's rank correlation coefficient. The total change over the period was examined with the help of concordance coefficient 'W'. The analysis revealed that there was a no shift in the cropping pattern between 1998-99 and 2008-09 in the Chandrapur district of Vidarbha region. However, the acreage allocation between different crops was observed during the period of study.

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Key words : Cropping pattern, Shift, Agricultural growth

INTRODUCTION

Cropping pattern refers to the area under different crops. Numbers of crops are grown in an area depending on its feasibility, productivity and needs. Usually, when dominant crops occupy more than seventy per cent of the gross cropped area in a given area, forms the major crop occupied by different crops. Cropping pattern of any place is a function of climatic elements, their periodicity in terms of seasons, nature of soils, physiography and man introduced factors like use of fertilizer, irrigation etc. Changes of shift in the cropping pattern exhibit a change in the proportion of area under different crops. The selection of crops in the cropping pattern depends on number of factors. As such cropping pattern plays a vital role in determining the level of agricultural growth of an area. Hence, a study of the cropping pattern over a period of time will help in determine the factors that have caused the change. The objective of the paper was to study the extent of change in the cropping pattern over a period of time.

MATERIALS AND METHODS

The data for the present study have been obtained from statistical abstract of Maharashtra state published by the Government of Maharashtra. The data pertained to the period 1998-99 to 2008-09. To test whether there is any change in the cropping pattern in the Vidarbha region, Spearman's rank correlation coefficient, Concordance coefficient have been used as follows:

Spearman's Rank Correlation Coefficient:

$$\rho_{sj} = 1 - [6\ \Sigma\{d^2\ (i)\}/\{n(n^2-1)\}]$$

where,

ρ = rank correlation coefficient

d(i) = difference between two ranks allotted according to criteria s and j to i-th unit,

n = units ranked

s/j = 1…….m = ranking criteria

Concordance coefficient:

$$W = \frac{\sum dif^2}{\frac{1}{2}m^2(n^3 - n) - nt}$$

where,

w = concordance coefficient,