

## Crop diversification in the North Konkan

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### ABSTRACT

A study on Crop Diversification in Konkan region revealed that in North Konkan 98.53 per cent of total foodgrains and oilseed area was under foodgrains, of which 89.60 per cent area was under cereals and 8.93 per cent was under pulses. Rice was the major cereal crop contributing about 79.86 per cent area of foodgrains and oilseed crops. In North Konkan region Thane district contributed more (67.83 per cent) in gross cropped area than Raigad district (32.17 per cent). There was uniformity in cropping pattern during last two decades. Only percentage share of each crop in gross cropped area has change. Greater crop diversity was observed in Thane district of North Konkan. Overall for North Konkan the crop intensity was low and stable for last two decades. The significant increase in acreages was observed in groundnut, fruits and vegetables and fodder crops throughout the period. This indicated a shift from subsistence to commercial agriculture or high value crops. Irrigated area and average size of holding and mechanization in terms of electric pumps, power tiller were the important factors influencing crop intensification in North Konkan.

**Key words :** Cropping pattern, Foodgrains, Fruit and Vegetables, Crop intensification.

### INTRODUCTION

Crop diversification is an important strategy to manage rainfed agriculture in enhancing agricultural production and improving the sustainability of natural resources. It is defined as the increased variety of agricultural commodities produced and can be achieved by planting new crops in newly opened lands other than the existing traditional crops and adding new crops to traditional crops in the same land through more intensive crop rotation or intercropping. This would allow effective use of existing resources such as residual moisture, human labour, bullock labour and cultivation tools; and would also prevent degradation of natural resources. The present study is an attempt to generate sufficient information to explore opportunities and propose appropriate strategies for crop diversification.

### Objectives

- 1) To assess past trends and existing status of cropping pattern in North Konkan.
- 2) To identify determinant of crop diversification and
- 3) To explore opportunities for crop diversification.

### MATERIALS AND METHODS

District wise data related to cropping pattern and land use were collected for the period of 1980-81 to 2000-01 from district statistical abstract and season and crop

reports. The Simpson Index of diversity was computed for triennium averages ending 1980-81, 1990-91 and 2000-01 as follows to indicate crop diversification.

$$\text{Simpson Index of diversity} = 1 - (\sum Si^2) / (\sum Si)^2$$

Where,  $S_i$  is the share of crop  $I$  in gross cropped area. A high Simpson index indicates greater crop diversity; while a low index reflects more specification.

Annual compound growth rates were estimated to examine the changes in cropping pattern and recent trends in crop diversification.

District level data were analyzed for three time periods : 1980-81 to 1989-90; 1990-91 to 2000-01 and 1980-81 to 2000-01.

The multiple regression analysis for the period 1980-81 to 2000-01 was done to access factors determining crop intensification. The estimated equation was expressed in form of crop intensify (%) as dependent variable and ten independent variables namely irrigated area, gross irrigated area, rainfall, size of holding, tractors, power tillers electrical pumps, oil pumps, No, of market yards, credit per hectare of gross cropped area.

### RESULTS AND DISCUSSION

The existing status of foodgrains and oilseeds crops of North Konkan is presented in the Table 1.

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