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Agricultural Growth in the Union Territory of Pondicherry

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ABSTRACT

The compound growth rates of area, production and productivity for rice, ragi, cumbu, sugarcane and groundnut were worked out for Pondicherry State for the period 1960—'61 to 1970—'71. Productivity of all crops except ragi, contributed more towards increased production than area. The area irrigated under all the crops except groundnut showed increasing trends. Farmers of this State preferred growing food crops than non-food crops.

INTRODUCTION

About 44.3 per cent of the working force of the Union Territory of Pondicherry is engaged in agriculture and this sector accounts for about half of the State's income. Since the success of economic development is largely dependent upon the growth of agriculture, the administration of Pondicherry had launched several agricultural development schemes. Hence, a study of growth rates in agriculture in the Union Territory of Pondicherry will be of immense value in assessing the impact of these schemes. The main objective of the present study was to analyse the rates of growth of production and its components, *viz.*, area and productivity of the important crops in the Union Territory of Pondicherry, over a period of time.

MATERIALS AND METHODS

Among the various known methods of measuring agricultural growth, the 'exponential' trend fitting was considered as the most suitable as it has the advantage of easy algebraic manipulation.

Compound growth rates were calculated by least-squares fitting of the exponential function $Y = AB^x$, where, Y = area/production / productivity of crops, X = time.

By taking logarithms of both sides of the equation, it takes the following form:

$$\text{Log } Y = \log A + X \log B$$

$$\text{Compound growth rate} = (\text{Antilog } B - 1)\ 100$$

The growth in agriculture is the net result of the growth of area, productivity and production of crops. For a proper assessment of trends in area under crops, yields and agricultural production, it is necessary to have a continuous series of estimates on a comparable basis. For want of data, the analysis of agricultural growth was

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confined to five crops. Since the interest in the present study is more on the absolute growth, the actual area under crops, per hectare yields and production of crops were used. The period covered in this study was from the agricultural year 1960—'61 to 1970—'71 and the data were collected from the Season and Crop Reports of the Union Territory of Pondicherry.

RESULTS AND DISCUSSION

Despite the year to year fluctuations, agriculture in the Union Territory of Pondicherry had shown definite progress. The compound growth rates were worked out for the State as a whole for five crops, *viz.*, rice, ragi, cumbu, sugarcane and groundnut, since they occupied 79.5 per cent of the gross cropped area in 1970—'71. In addition to the above five crops, the compound growth rates were also worked out for area under food crops, non-food crops, gross cropped area irrigated in all the above categories. The compound growth rates obtained are presented in Table 1.

TABLE 1. Compound Growth Rates (1960—'61 to 1970—'71) (In per cent)

Particulars	Production	Area	Productivity	Area irrigated
Rice	5.30	—0.35	5.70	0.20
Ragi	1.80	2.10	—0.23	2.90
Cumbu	12.70	2.00	10.50	*
Sugarcane	1.50	0.70	0.80	1.30
Groundnut	—1.98	—3.13	1.20	—0.49
Food crops	—	1.00	—	0.90
Non-food crops	—	0.80	—	—1.28
Gross area	—	1.00	—	0.80

* Data not available

The analysis indicated that of the five crops considered in this study, production of cumbu registered the highest rate of growth followed by rice, ragi and sugarcane. The production of groundnut showed a decreasing trend of 1.98 per cent. The area under ragi had registered the highest compound growth rate, followed by cumbu and sugarcane. The area under groundnut and rice registered a a decrease of 3.13 per cent and 0.35 per cent per annum respectively. The productivity of cumbu registered the highest growth, followed by rice, groundnut and sugarcane. The productivity of ragi showed a decreasing trend (Table 1). The area irrigated under ragi had shown the highest compound growth rate followed by sugarcane and rice. The area irrigated under groundnut had shown a decreasing trend.

Thus it could be seen that the rate of increase in the production of rice in this state was largely due to the rate of increase in the productivity of this crop. The contribution of area to the

rate of increase in the production of this crop was relatively nil. The higher growth rate in the productivity might be due to the introduction of high yielding varieties of rice followed by the judicious use of fertilizers and also the adoption of the other yield increasing inputs in an intensive scale. This indirectly explains the success of scientific agriculture in this state. The increase in the production of rice was largely due to the productivity increase than by area expansion was broadly in agreement with Subramanian (1968) who concluded that all the districts of Tamil Nadu State achieved high rates of crop output growth in rice, more through productivity increase than by area expansion.

The compound growth rate of ragi indicated that the increase in the production of this crop was primarily due to the increased area growth than productivity. The productivity growth rate of ragi had shown a decrease. The growth rate of area under irrigation had shown an appreciable increase. These indicated that not only more area was brought under ragi cultivation but also the increasing awareness shown by the farmers to bring more area of this crop under irrigation in order to get an assured crop production.

The compound rate of growth of cumbu suggested that both productivity and area under this crop contributed for the increased production trend shown by this crop. Productivity had contributed more than five times than that of area for the production of this crop. The high growth rate in the productivity of cumbu might be due to the growing of hybrid varieties.

The compound growth rate of sugarcane indicated that both increased area and increased productivity were almost equally responsible for the increased production of this crop. The increase in the area proved that farmers brought more area under this crop due to its remunerative returns. Further, the high growth rate of area irrigated under this crop and the decreasing compound growth rate shown by the area under paddy suggested that the farmers had shifted the cropping pattern from paddy to sugarcane and converted even the rainfed sugarcane to irrigated sugarcane.

The compound growth rate of groundnut indicated that both area and production of this crop had shown declining trends eventhough the productivity of this crop had shown an increasing trend. The effect of decrease in area on the production of this crop was somewhat checked by the increased trend in the productivity of this crop. Moreover, the decrease in the area irrigated under this crop suggested that farmers were definitely in favour of allocating this resource to other remunerative crops like sugarcane which was cultivated even in gardenlands.

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REFERENCE

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