

CHANGES IN CROPPING PATTERN AND ITS IMPACT ON SOCIO ECONOMIC ASPECT OF THE FARMERS IN PACHAMALAI HILL, TIRUCHIRAPPALLI



***S. SUGUNA**

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****DR.K.KARUNAKARAN**

**Ph.D Research Scholar, Nehru Memorial College (Autonomous), Tiruchirappalli*

***Assistant Professor, Nehru Memorial College (Autonomous), Tiruchirappalli*

ABSTRACT

Cropping pattern means the proportion of land under different crops at a particular period of time. A change in cropping pattern refers to a change in the proportion of area distributed to different crops grown in the area. Cropping pattern is globally assumed as a very dynamic concept since it has changed over time and space. The conception of cropping pattern of a given location is initially determined by some factors such as demographic, geo-climatic, economic, cultural, sociological, historical, political etc. These determinants consequently shrink the cultivated area; and it, in turn, paves the way for changing cropping pattern and evolving new strategy of cropping intensity of a given locality. The survey was conducted during October 2017 and December 2017. The sample was based on simple random sampling design was adopted for this study. Selection of 50 farmers from Pachamalai hills, Tiruchirappalli district. After shifting the crop pattern income range is increase when compared to before cropping pattern. Therefore, there is a significant difference between before and after annual income of shifting the cropping pattern.

Keywords: *Cropping pattern, Pachamalai Hill, Impact on Socio Economic, Farmers.*

INTRODUCTION

Cropping pattern is also depending on terrain, topography, slope, soils and availability of water for irrigation use of pesticides, fertilizers and mechanization. In the simple word cropping pattern means the

production of area under various crops at a point of time. It is dynamic concept because no cropping pattern can be said to be ideal for all times to a particular region. It changes in space and time with a view to meet requirements and is governed largely by the physical as well as cultural and technological factors. The change in cropping pattern in particular span of time clearly indicates the changes that have taken place in the agricultural development. These changes are brought about by socioeconomic influence.

Proper cropping planning is one of the most important aspects of a developed and efficient agricultural economy. Without it, a nation's natural resources would be spoiled and hence resulting in a slow growth of agricultural production. Faulty crop growing often leads to soil exhaustion and a diminution of agricultural productivity in the long run. So it is very urgent to take initiatives of cropping pattern on scientific level to give real practical meaning to the concept of intensive agricultural development for increasing agricultural production. The study of economics of cropping pattern bears immense significance in view of the greater emphasis balanced development of agriculture to meet the food, fodder, fibre, oilseeds and other requirements of the population.

Cropping pattern reflects the preference of the farmers for various crops sown in an area. It implies the opportunity of the farmers to implement alternative plans in respect of maximizing his production per unit area, per unit time. Naturally no cropping pattern is good to be continued for long time. It requires changes as and when new varieties come into existence. The availability of marketing system and economics of crops determine the most profitable cropping pattern. Efficient cropping pattern ensures greatest efficiency of land, fertilizer, irrigation system and other agricultural inputs. The cropping pattern of a given locality emerges through the interaction of forces of physical, social, economic, technological and infrastructural factors. The impact of these factors would vary depending upon prevailing situation of a place. Geographical conditions, i.e. climatic conditions, type of soil, rainfall etc., are responsible for affecting the cropping pattern of a region. Because of variations of physical environment there are different types of cropping pattern in different parts of the world.

FACTORS INFLUENCING CROPPING PATTERN

Various factors influence cropping pattern in agriculture. Major factors influencing cropping pattern relate to both economic and non-economic considerations viz.

- Physical and technical factors
- Price and income maximization
- Farm size
- Insurance against risk

- Availability of farm inputs
- Land tenure
- Government policies and measures
- Plan target

REVIEWS OF LITERATURE

“In most of the situations the physical environment reduces the choice of certain crops altogether or by reducing their level (Morgan, W.B. and Munton R.J.C., 1971). In earlier periods the choice of cropping pattern was guided by agronomic considerations and consumption needs of farmers but now the market forces decide it. Mani and Jose (1997) reported significant shifts in cropping pattern had taken place in the northern districts of the State and area diverted for non-economic activities had risen. A shift in cropping pattern, in favour of cash and plantation crops, at the expense of probably the less remunerative crops had seen in the analysis by Jayakumar and Velayudhan (2002). Mani (2004) noted a significant reduction in area under rice and increased area under coconut and rubber and claimed that Kerala farmers were shifting the area under rice to coconut and rubber. Thomas (2004) observed from the analysis of the changes in cropping pattern of the State that since its formation in 1956 it clearly showed that there had been a persistent shift in favour of garden crops and plantation crops at the expense of food crops. Cropping pattern of Kerala triggered by market conditions and most important structural change is the relative decline in the proportion of food grains is noted by Mohandas (2005). Subhashini (2001) assessed the shift in cropping pattern in Tamil Nadu state and South Arcot district with special reference to oilseed crops. An analysis of three year average of area under major crops in four categories viz., (1) paddy, (2) oilseeds, (3) other food crops and (4) non-food crops before and after removing open general license were carried out. The results indicated that in Tamil Nadu except paddy, the other three categories experienced a reduction in area by 16.69, 10.85 and 2.76 per cent, respectively. In the south Arcot district, there was a huge fall in the share of groundnut area i.e. by 36.2 per cent. Other non-food crops also experienced a fall in area by 7.21 per cent. The concordance coefficient worked out revealed that there existed shift in cropping pattern in Tamil Nadu and south Arcot with special reference to oilseeds and the test indicated that the shifts were significant.

SIGNIFICANCE OF THE PRESENT STUDY

The pattern of cropping is a major feature of the agricultural land use in an area. Systematic understanding of cropping pattern changes is very important, for the farmers to get better or best possible returns, for the entrepreneurs to decide the optimal or near optimal locations and capacities of new agro-based plants and factories, for the government and law-makers to check that over production of some farm products does not result

in under production of some other ones, thus ensuring the required overall balance. Introduction of the short durated high yielding varieties and hybrids coupled with expansion of area under irrigation has brought about dynamic changes in agriculture sector in Tamil Nadu. The farmers in the state are responding to the market forces and agro climate changes in area allocation decision. They are switching over from low value crops to high value crops. It's important to know the temporal variation in cropping pattern and cropping intensities and also the socio economic factors determining these temporal variations. The information on these issues facilitates the policy makers to manipulate the socio economic factors to achieve the desired changes in the cropping patterns. Hence, the study of this kind would be useful to the researchers, administrators and academicians. Keeping these things in view a study was conducted in Pachamalai Hills, Tiruchirappalli district, Tamil Nadu. To find out the changes in cropping pattern and its impact on socio economic aspect of the farmers` in the state.

OBJECTIVES

- To analyze the cropping patterns in Pachamalai Hills, Tamil Nadu.
- To find out the problems and prospects associated with the cropping patterns of the district.
- To suggest some recommendations how to accelerate cropping intensity in the district

METHODS AND MATERIALS

The data for the study gathered from secondary sources as well as from a purposeful and well structured field survey. The survey was conducted during October 2017 and December 2017. The sample was based on simple random sampling design was adopted for this study. Selection of 50 farmers from Pachamalai hills, Tiruchirappalli district.

DATA ANALYSIS AND INTERPRETATION

Table No.1:- Socio-Economic profile of the respondents

Variables	No.of respondents (n=50)	Percentage (100%)
Age		
Below 30yrs	07	14
31 to 40yrs	18	36
41 to 50yrs	21	42
51yrs & above	04	08

Size of land		
Small	23	46
Medium	18	36
Large	09	18
Major Crop		
Paddy	04	08
Maize	07	14
Cumbu	13	26
Ragi	07	14
Groundnut	06	12
Cotton	06	12
Others	07	14

Source: Primary data

The above table reveals that more than one third (42 per cent) of farmers were in 41 to 50yrs of age group, 36 per cent were 31 to 40yrs, 14 per cent were below 30yrs and remaining 08 per cent were 51yrs and above. More than one third (46 per cent) of small size of farmers, 36 per cent were medium size and remaining 18 per cent were large size. One fourth (26 per cent) of farmers were Cumbu cultivate, each 14 per cent were Maize, Ragi and other variety, each 12 per cent were Ground nut and Cotton and remaining 08 per cent were paddy.

Table No.2:- Difference between before and after annual income of shifting the cropping pattern

Income	N	Mean	S.D	t	df	Statistical inference
Before	50	78,987	1.956	18.237	48	.000<0.05 Significant
After	50	92,864	0.984			

Statistical test: Paired sample 't' test was used the above table

While comparing the mean and S.D value is before annual income $78,987 \pm 1.956$ and after annual income $92,864 \pm 0.984$. After shifting the crop pattern income range is increase when compared to before cropping pattern. Therefore, there is a significant difference between before and after annual income of shifting the cropping pattern. The research hypothesis is accepted.

SUGGESTIONS AND CONCLUSION

Proposed objectives are achieved by studying the cropping pattern, crop diversification region, factors responsible for changes in the cropping pattern and crop diversification and have found environmental effects due to crop diversification. Thus for the achievement of above mentioned objectives, proposed four hypotheses are tested and these proved valid. The use of chemical fertilizers should be minimized by using alternative manures

like green manure, cow dung and bio-fertilizers. More agro-based industries should be installed e.g., vegetables processing plants, fruit processing plants, milk plants, sugar mills, chain of cold storage, etc. so that study region's agriculture can be diversified from highly specialized.

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