CHAPTER V
RESEARCH FINDINGS, SUGGESTIONS AND CONCLUSIONS

5. GENERAL CHARACTERISTICS OF SAMPLE FARMERS

The general characteristics of the sample farmers are presented in this chapter. From the analysis it is inferred that the average age of the farmers. This implied that relatively young farmers were involved in paddy cultivation. The average family size of farmers was 4 to 5 members. From this, it could be inferred that the sample farmers of paddy cultivation belonged to medium size families. The major educational qualifications of the respondents were SSLC and secondary education whereas nearly 35.5 percent of the farmers were found illiterates. The study shows that 65.5 percent of the farmers are educated. This implied that educated farmers were involved in paddy cultivation. The majority of the sample households (34.3 percent) annual incomes was below ₹ 50000. But the income the land varies according to the size of land holdings pattern of cultivation and location.
5.2 MAJOR FINDINGS OF THE STUDY

5.2.1 Land and Asset holdings of farmers

- Paddy farmers are found to be of younger age group. The average land holding of paddy farmers was 4.30 acres. The livestock and machinery position of the paddy farmers found to be slightly more. Farmers were growing more number of crops per season and per year.
- Out of the 400 households covered in the research, 285 households own paddy lands with varying sizes and the leased out of paddy fields households during the last crop season was 115.
- It is found that 335 households’ lands in the study area have assured water facility since those are situated on the banks of river Cauvery.
- Paddy is the major food crop cultivated in the study area. The harvesting operation is highly remunerative and it is done by both male and female agricultural workers. The farm implements owned by the households enable the male agricultural workers to render their work effectively.
- It is clear from the analysis that 94 sample respondents holding well and bore well since it is important source for cultivation.
- It is found that only 102 pair of bullocks were owned by the sample respondents out of the total 400.

5.2.2 Economics of Paddy Cultivation

- The largest source of irrigation in the study area is canal which used by 57.5 percent of farmers. Basically the study
The area situated on the bank of the river Cauvery so majority of the farmers are using only canal irrigation method.

- The majority 88% of farmers have used High Yielding varieties and the minimum 12% of farmers are using traditional seeds. Most of the farmers prefer to have high yielding variety seeds since the variety has high yield and less cost in its practice comparatively traditional method of cultivation.

- Out of 400 samples of the study, around 52.5% of respondents are getting high yield per acre of paddy i.e., 35 bags and above.

- At present the government market occupies 39.5% a major portion in purchasing the produce from the cultivators. It is clear that intermediaries are controlled by the intervention of government participation.

- Majority of the respondents (163) state that they have borrowed loan from commercial banks.

- Nearly 163 respondents availed loan from commercial banks and they constitute a large number with 40.8% since the rate of interest is low for agricultural purposes. Again 28.7% received loan from cooperative banks mainly for agriculture and educational purposes. For huge amount they preferred to go for nationalized banks and the government also gives subsidy for agricultural loans but for the sake of urgent reasons farmers go for friends and relatives for borrowings.

- The study revealed that 43.8% of the farmers cultivate kuruvai crop, 33% cultivate samba and 23.3% opt for summer crops like gingili, pulses and oil seeds due to water stress.
In the case cropping pattern ADT 36 and Andra ponni has covered by large number of farmers which comes around 65.5 percent. The rest of them had Karnataka ponni and White ponni which comes around 34.5 percent.

Cropping pattern followed by the sample farmers was presented in Table 4.20. The data presented in the table indicated that farmers grew more number of crops in kuruvai season.

Out of 400 sample respondents only 16.5 percent were following the method of SRI.

It is found that 56.5 percent of respondents have the knowledge of System of Rice Intensification.

5.2.3 Sources contributing to the yield differences

Generally both male and female members are participating in all the farm activities whereas either the family labour or hired labour to be used on the basis of the availability of labour force in the study area.

On an average the sample farmers of the study area had spent Rs 7600 per acre as human labour costs.

The surface of the paddy lands in this area is immersed in water throughout the year except for a short period after the dewatering operations.

Only a minimum percentage of the sample farmers used drought animals to plough their fields and machine labour is used for dewatering, ploughing, threshing and winnowing.

During the summer crop of 2011-12, the average gross profit per acre of the sample farmers amounted to Rs 9850. In this
regard considerable variations are observed among the different categories of farmers.

- Generally farmers used to buy seeds from co-operative societies at subsidized rates. Then some are relied on farmers of other areas who had raised the second crop, to meet their seed requirements. Even though the farmers had to pay higher prices to purchase seeds from private farmers the quality of such seeds had been relatively better.

- The BCR for traditional method of paddy cultivation is 0.542 and the BCR for SRI method of cultivation is 1.06.

- The average cost of chemical fertilizers per acre is Rs.3000 for its purchase. It is observed that none of the farmers at present uses farm yard manures like cow dung or ash.

- Over the past few years the use of weedicides is becoming increasingly popular among the sample farmers. On the other hand the extent of the use of insecticides has been declining in this area.

**5.2.4 Adoption level of SRI paddy farmers and their satisfaction**

- There was a glaring difference in the costs incurred on seeds between the two methods mainly due to the very less quantity of seeds used in SRI paddy cultivation.

- All the sample farmers followed the wider spacing in SRI method of paddy cultivation. Complete adoption level was high in the case of nursery area followed by transplanting practice.

- Major reasons for practicing SRI method by sample farmers were less water requirement and higher yield levels.
Major constraints in practicing SRI method were and high labour requirement and weed menace.

5.2.5 Structural break and nature of technical change

- There was a structural break in the paddy production with the introduction of SRI method.
- Technological change between traditional and SRI method of paddy production was because of the upward shift in the production.

5.2.6 Satisfaction level of farmers and their problems

- The majority of the paddy farmers (84 percent) in the study area were satisfied with paddy cultivation.
- In recent years farmers are facing mostly shortage of labour and power cut problems.

5.2.7 Findings related to Hypotheses

- There is a significant difference among farmers in the selection of paddy crops for cultivation in the study area.
- Labour shortage and the resultant higher labour cost are the major bottlenecks in the paddy cultivation.
- The SRI method is decisively more profitable than traditional method of paddy cultivation

5.2.8 Findings from the Results of the Hypotheses Testing

- There is no significant association between size of cultivation acres of the respondents and their opinion about source of irrigation.
- There is a significant association between size of cultivation acres of the respondents and their opinion about problems of irrigation.
There is a significant association between size of lands owned by the respondents and their opinion about zone wise.

There is no significant association between season wise of cultivable of the respondents and their opinion about return of yields & cost.

There is no significant association between size of cultivation area of the respondents and their opinion about types of seeds.

There is no significant association between season wise cultivation of the respondents and their opinion about types of seeds.

There is no significant association between season wise cultivation of the respondents and their opinion about problems of irrigation.

There is no significant association between type of seeds used by the respondents and their opinion about problems of irrigation.

There is a significant difference between zone wise cultivation of the respondents and their opinion about level of satisfaction.

There is a significant difference between size of cultivation area of the respondents and their opinion about level of satisfaction.

There is no significant difference between season wise of the respondents and their opinion about level of satisfaction.

There is no significant difference between method of cultivation of the respondents and their opinion about level of satisfaction.
There is no significant difference between size of yield of paddy per acre of the respondents and their opinion about level of satisfaction.

There is no significant difference between the places of paddy market of the respondents and their opinion about level of satisfaction.

5.3 SUGGESTIONS

The following are the suggestions of the study.

- Both Central and State Governments need to encourage these alternative systems of rice cultivation in the suitable areas.
- Mechanization of farming technology and permanent land improvement activities require huge capital investments. Sincere efforts are to be made to encourage private investments by attracting agricultural entrepreneurs to the area.
- Temporary measures like the enhancement and timely disbursement of the cultivation needs, reduction in power tariffs and power cut, introduction of old age pension scheme for farmers etc., may appease paddy farmers to some extent for the time being but bold and decisive steps are needed to redress their grievances permanently.
- SRI has shown great potential in higher rice production with less water in and its potential needs to be tested in other places where similar situation exists.
- In Karnataka and AP, aerobic rice culture has also shown great potential. This has also to be tested in larger areas of Tamil Nadu.
5.4 POLICY IMPLICATIONS

The study has the following policy implications.

➢ The use of resources like seeds, fertilizers and FYM can be increased to optimize the resource use and get maximum returns in paddy cultivation, whereas use of all the resources can be increased except land. So, there is a greater scope for reorganization of resources in paddy cultivation.

➢ The technical inefficiency levels in paddy production indicated that there is a scope to enhance the productivity levels in paddy production without using additional resources. Therefore, there is a greater responsibility on the part of the extension department to provide timely suggestions and to conduct extension programmes regarding recommended practices of production in cultivation.

➢ High labour requirement particularly for transplanting and weeding operations was the major constraint in practicing paddy production. The agricultural engineering department should fabricate different models of power operated mechanical weeder suitable to different soil conditions.

➢ The government and extension agencies need to popularize and encourage the widespread adoption of SRI cultivation. Government may even provide incentives by way of subsidies or in other forms to encourage widespread cultivation of SRI method.
5.5 CONCLUSION

Rice is the staple food for about 50 percent of the world’s population that resides in Asia, where 90 percent of the world’s rice is grown and consumed. In Asia, India has the largest area under rice (41.66 million ha) accounting for 29.4 per cent of the global rice area. Rice is one of the largest traded commodities in the world with a total quantity touching 16.4 million tones.

The green revolution of 1960’s was oriented towards high input usage particularly hybrid seeds, fertilizers, irrigation and plant protection chemicals. As a result of higher use of these inputs the cost of cultivation escalated. This is more so in irrigated crops like paddy.

The skewed distribution of green revolution results and increased costs of cultivation have given alarming signals to the future needs of food security. SRI-System of Rice Intensification is a system of production of rice. SRI is considered to be a disembodied technological change in paddy cultivation. SRI involves the use of certain management practices, which together provide better growing conditions for rice plants, particularly in the root zone, than those for plants grown under traditional practices. This system seems to be promising to overcome the shortage of water in irrigated rice. It offers increased productivity for resources like land, labour and water. In fact, it is a less water requirement method of rice cultivation, which is suitable to poor farmers who have relatively more labour than land and capital.

The growth has been flat and has started declining in some of the progressive states and reversing the trend is not easy. After a
long period of technological breakthrough and adoption, yield gap still exists in many of the states. In the country, more than 50 percent of the potential yield in the case of rice is not realized yet.

Decline in factor productivity and output-input ratios clearly substantiate that the returns to investment in agriculture seem to have been declining. Therefore, potential for increasing production of crops through adoption of wide range of modern technologies has remained unexploited in many parts of the country because of unfavourable output-input prices. It is generally, believed that farmers in developing agriculture fail to exploit fully the potential of a technology and/or make allocative errors with the result that yields show wide variation, usually reflecting a corresponding variation in the management capacities of the farmers. This shows that considerable scope exists for raising productivity and income of the farmers by improving their efficiency. Therefore it is the right time to examine various economic issues of farmers in paddy cultivation. Hence, this study was taken up.

This study has proved that SRI method is more profitable than traditional method of paddy cultivation. But there are difficulties in the SRI method of cultivation which should be effectively addressed. Rising labour cost and farm inputs cost erode the profitability of farming in the study area. If farmers are able to overcome the above mentioned problems with judicious farm management practices and with government patronage, paddy cultivation in the study area will have bright future.