CHAPTER 7
CHAPTER VII

SUMMARY AND CONCLUSION

A study of decision making process helps in understanding the system from the root and the behaviour of the agents in the system. Decision making studies also aids policy makers to discern the process and the different components of decision making. It is in this direction, the present study is sought to contribute. This study is an attempt to find out the influence of price and non-price factors on the decision making process of different categories of farmers in diverse situations.

This study is conducted at a micro level by taking two revenue villages, one each from the two diverse situations. Cholavandan, a wet village and Uthappanaickanur, a dry village have been selected on the basis of their representativeness to the two situations. Farmers in the selected villages have been grouped into three categories viz. owner cultivators, tenant cultivators and capitalist or large farmers. While in the wet village, we could find farmers under
the number of crops cultivated by a particular category of farmers or number of equations regressed.

\[ x_1 = \text{total members in the household.} \]

\[ x_2 = \text{average age of the decision makers.} \]

\[ x_3 = \text{education of the decision makers.} \]

\[ x_4 = \text{modernity scale of the decision makers.} \]

\[ x_5 = \text{rationality quotient of the decision makers.} \]

\[ x_6 = \text{risk taking scale of the decision makers.} \]

\[ x_7 = \text{information available to the decision makers.} \]

\[ x_8 = \text{political influence of the decision makers.} \]

Before using this model for economic and behavioural relationships, according to Huang (1970), three things have to be made sure clearly.

(1) Certain commonly correlated variables are not included in the equations.

(2) The dependent variables may be somehow correlated.

(3) The disturbances of a set of equations would be correlated, at least, contemporaneously.
selecting the representative villages from the representative taluks through disaggregated analysis at taluk level and, it corroborated the state level analysis in social and demographic features. The representative taluks are Nilakottai (wet area) and Usilampatti for dry area. Cholavandan and Uthappanaickanur villages are selected from these two taluks respectively.

At the micro level using primary data, the influence of price and non-price factors on what crop to grow has been analysed with the help of multi-variate linear set of regression and crop diversification index. The dynamics of input decision at the field level has been probed with the help of controlled Cobb-Douglas production function. The crop state has been grouped under initial, vegetation and maturation stages. In this controlled model, each stage input has been regressed on output to bring out the influence of input at each stage of the crop on the output. The marketing decision has been analysed by taking the prevalence of different rural and agrarian institutions into account. The marketable surplus has been computed only in the case of foodgrains with the percentage of retentions to total output, as other crops are not consumed at source.
Summary of the Findings

The analysis on the reasons for cultivation of different crops established that the distance of the land from the place of residence, closeness to motorable or main road and certain superstitious beliefs are the major reasons for crop composition. In the case of banana and jowar, land has to be closer to home as they require daily care. To cultivate sugarcane, land has to be closer to road which makes the transporting of the harvested crop easier. When the distance is more from the road, the workers are reluctant to take up the harvesting work, for it requires more manual work to transport the canes to the road. In the wet area, a superstition - cultivating banana, paddy and sugarcane in combination causes family-disintegration - decides largely the crop composition.

The analysis of exogeneous factors has shown that though most of the exogeneous factors are similar in nature for all crops and all categories of farmers in the two situations, the extent and nature of their impact differs. While rat problem is a major exogeneous factors in the cultivation of paddy (particularly in dry area, due to cultivation in isolated lands), pest and disease are the major exogeneous factors for the other crops.
The analysis of risk taking behaviour has explicated that while the risk taking attitude differs between different categories of farmers in wet area, it does not make much difference between categories of farmers in dry area. While the wet area farmers are more risk taking irrespective of the category to which they belong to, the dry area farmers are more risk averse.

The multi-variate linear regression results have established that in the wet area, information as a variable shows a positive and significant influence on the decision making of all categories of farmers. While modernity shows a positive relationship for both owner and tenant cultivators for all crops, it shows a negative association for the capitalist farmers in the case of all crops. This is in conformity with the view of diversity within the rural sector.

In dry area, the multi-variate linear regression results have demonstrated that in addition to information, rationality quotient and political influence play a role in the decision making of all crops for both categories of farmers. While education shows a positive influence for owner cultivators, it is negative for capitalist farmers.
A two dimensional comparison of these results have substantiated that while there are clear-cut differences between the two situations in the decision making, it shows a different picture within the situations between categories of farmers. It shows that there are diversities between the categories of farmers in wet area, whereas there is no difference in the dry area.

Analysis of the influence of size of operational holding and area under substitute crops on the cropping decision by using the multivariate linear regression brought out that in both situations, operational holding has a positive and significant influence on crop decision for all categories of farmers and for all crops except jowar in the dry area. It is also found that while all the crops in the wet area display a negative association with substitute crops uniformly, most of the crops in the dry area demonstrate a positive association. This is because in the dry area, on the same land, farmers raise more than one crop or the same crop for more than one season in an agricultural year.

The analysis of the input decision making process illustrated that all categories of farmers, except capitalist farmers in wet area, discuss with co-
farmers to take any decision related to input application. In addition to this, they turn to the staff of the agricultural department for activities related to the cultivation of high yielding varieties which are grown at the counselling of T and V staff. In the case of pesticide application, irrespective of categories of farmers and varieties of crop, farmers count heavily on the sprayer, a skilled labour for pesticide application. In addition to these, farmers discuss with workers regarding the weeding and harvest activities since these are peak season activities in both the situations. Regarding financial matters, they discuss with bank officials, village money lenders and relatives.

The analysis of the factors influencing the decision on different components of inputs exhibited the dominant role of water availability either rainfall or release of water from the reservoir for the timing of sowing decision. The fertiliser and pesticide application depend upon the crop growth and severity of pest or diseases.

The dynamic input decision making has been analysed by dividing the crop state into initial, vegetation and maturation stages. The linear regression results have led to draw the inference that while vegetation stage inputs are more efficient contributors
on output in wet area, the maturation stage inputs are significant factors in the dry area. However, no clear pattern is seen between the two situations. For instance, in the wet area, owner cultivators are more efficient in the initial stage input decision for all crops whereas in the dry area, they are efficient in the initial stage only for paddy and groundnut.

The double log function results have shown that while in the case of owner cultivators, the elasticity of output with respect to all stage inputs is higher for paddy and banana, it is higher in the case of capitalist farmers for sugarcane in the wet area. Similarly, in the dry area, while for owner cultivators, a higher elasticity of output with respect to inputs for paddy and groundnut is observed, a higher elasticity of output with respect to input for cotton and jowar is obtained for capitalist farmers. In the stage wise analysis, while vegetation stage input decisions have shown a higher elasticity of output in the wet area, maturation stage input decisions have displayed a higher elasticity of output in the dry area. On the whole, in both the situations, for all categories of farmers and for all crops, the elasticity of output is more than unitary.
The analysis of the process of marketing decision has established that farmers, irrespective of category, discuss with commission agents regarding market matters. Among the factors which influence the marketing decision, household consumption shows its dominance in the case of foodgrains. One more interesting finding in this analysis is the 'price situation' and 'immediately after harvest'. Both the factors sway the market decision because most of the farmers dispose part of their marketable surplus immediately after the harvest and keep a portion of it to meet the cost of cultivation in the next stage. This produce is disposed whenever the price is remunerative.

The analysis of the proportion of retention to the total produce has confirmed that on an average only less than 50 per cent of the produce is marketed for all categories of farmers in the case of paddy. Among the components, household consumption is the major one for owner cultivators while payment of wages in kind is higher for capitalist farmers. In the case of tenant cultivators, payment of rent in kind is the highest. Between the situations, retention is higher in the dry area.

In the case of jowar, the major components of retention are household consumption and kind payment of wages. Nearly half of the produce is retained by owner
cultivators while it is only a fifth for capitalist farmers. The proportion of payment of wages in kind is same for both categories of farmers in the dry area because payment in kind is made only for harvest and it is fixed on a per acre basis.

Conclusion

The findings of the study can be stated as follows.

Location of the land decides the cropping decision of the farmers. While farmers prefer to cultivate sugarcane when land is closer to the road in the wet area, they cultivate paddy when it is a waterlogging land. If it is in the wind shadow region, they prefer to cultivate banana. If paddy is cultivated in isolated plots, the rodents will damage the crop considerably. Hence, the crops in the contiguous land also plays a role in the cropping decision.

Dry area farmers are more risk averse than the wet area farmers. Most of the wet area farmers are practising mono-crop cultivation while the dry area farmers cultivate a minimum of two major crops to a maximum of four major crops. In case of crop failure, the mono-crop farmers face total loss whereas crop diversification helps in compensating a loss in one crop by the other crop.
There is more diversity in the rural sector in wet area than in dry area. The variables like modernity scale, risk taking behaviour and political influence vary from one category of farmers to the other in wet area but it is not the case in the dry area.

While the size of holding determines the decision of land allocation to different crops in wet area, the substitute crops also play a role in the dry area.

Except capitalist farmers in wet area, all categories of farmers in the two situations discuss with the co-farmers regarding the different components of inputs. Most of the farmers base their decision of adopting technology by perceiving the success of co-farmers. In addition to co-farmers, they discuss with sprayers (the man who sprays pesticides) regarding pesticide application. High Yield Varieties related activities are discussed with agricultural department staff.

While vegetation stage inputs are more efficient in wet area, the maturation stage inputs have higher efficiency in dry area. This is because in the dry area, the exogeneous elements like pests, rodents, birds and animals affect the crop at the maturation stage.
The elasticity of output in the two situations for all categories of farmers is more than unitary.

The marketing decisions are taken in consultation with the commission agents in both the situations and to all categories of farmers. Farmers dispose of the major portion of their produce immediately after harvest. They keep a portion to meet the cost of cultivation. At the time of marketing this portion, price plays a role irrespective of category.

The marketable surplus of foodgrain varies from category to category of farmers in both the situations. The amount of retention too varies from one third of the produce for capitalist farmers to two third of the produce for tenant cultivators in wet area. In the dry area, the difference is less because the capitalist farmers pay wages in kind.

The prevalence of number of rural institution determine the marketable surplus. The important institutions are joint family system, tenancy, contract labour system and other kind payment to rural artisan.

To sum up, the conclusions of this study go with the cautious optimising principle and satisfy all the components viz: tactics for uncertain environment, feedback mechanism, learning, satisficing and multiple goals. This study has observed the farmers' tactics to
counter the uncertain environment in the share of wages in the dry area, banana decision to avoid windy season at pollination stage and, in taking drought and pest resistant crop decisions. Feedback mechanism has been observed clearly in the farmers’ discussion with other experienced people in the particular activities like sprayer, workers and commission agents. Farmers learn from co-farmers and, also they learn from past mistakes and experience. Farmers also have the urge to learn to counter the uncertain environment. This has come out clearly in the discussion on the reasons and exogeneous factors for cultivating a particular crop. In addition to these, farmers attempt to maximise the output and profit by increasing the input proportion. This is observed in the analysis of the elasticity of output and bases of input decision making. The discussion on marketing decision of farmers vindicates the multiple goals of cultivation like profit and household consumption. Thus, this study draws the inference that farmers are more cautious in optimising the limited resources and any policy measure to improve the agricultural production has to take into consideration the behaviour of decision makers for the success of the plan.


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