A Study On The Expectations Of The Farmers In Thanjavur District

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ABSTRACT -Agriculture is the main occupation in Thanjavur. More than half of the land in the district is fit for cultivation. Farmers with small prices of land grow crops own consumption. The basic problems are storage facilities, use of pesticides and fertilizers that led to green revolution in several parts of India. As a result there was a increase in the yield per hectare as well as total production of different crops. The major portion of Organic farming is being implemented and it led to maximize the agricultural produce. This study focuses on the expectations of the farmers in Thanjavur District. Agricultural development predicts the national prosperity of a country. It is the main source of earning livelihood of the people in Thanjavur District.

Agriculture constitutes the nerve centre of all economic activities in countries - both developed and under-developed - all over the world. In fact the very survival of mankind depends exclusively on the myriad varieties of food grains produced. Of the many kinds of food grain available, paddy (rice) is the most important one, especially in countries like India. Hence, a place of paramount significance has been given to the acceleration and growth of paddy cultivation during the plan periods. This is precisely the reason why the production and marketing of paddy has turned out to be a veritable avenue of research.

Keywords- Agriculture, development, country Farmers, Organic farming, consumption

I. INTRODUCTION

In India farming depends mainly upon monsoon rain and most of the production comprises of food crops. Farmers own small prices of land and grow crops for own consumption. Even storage facilities for crops are inadequate. Now the use of pesticides and fertilizers has increased and large areas have been brought under high yielding variety of seeds. This led to green revolution in several parts of India. This has helped in increasing yields per hectare as well as total production of different crops. Agricultural development is a precondition of our national prosperity. It is the main source of earning livelihood of the people. Nearly two-thirds of its population depends directly on agriculture. Agriculture provides direct employment to 70 percent of working people in the country.

STATEMENT OF THE PROBLEM

Paddy is the staple food crop and it has greater economic importance among the food crops, since it is the leading commodities in agricultural exports. Hence, the production performance of the crop is of critical importance in improving the efficient use of resources. The cost of production and net returns obtained per unit would determine the profitability of the crop. Though production is the initiation of the developmental process, it could provide less gain to the producers unless there exists an efficient marketing system. Agricultural marketing is therefore, of greater importance. Commercialization of agriculture has further increased the importance of marketing. Farmers raise the crops with a hope of receiving fair returns for their hard labour.

This study attempts to analyse the expectations of the farmers in marketing of paddy. Thanjavur district is said to be the granary of Tamil Nadu and is inferred that agriculture is the primary source of livelihood for the majority of people in Thanjavur district. Hence, the present study is an attempt to analyse the marketing of paddy in Thanjavur District.

OBJECTIVES OF THE STUDY

The main purpose of the study is to analyse the expectations of the farmers in Thanjavur District

- To review the available literature on marketing of paddy.
- To explore the socio-economic conditions of respondents in Thanjavur District

 DOI : 10.18231/2454-9150.2019.0445

- To analyze the expectations of the farmers in Thanjavur District
- Finally, to suggest suitable measures to resolve the major problems of marketing of paddy.

SIGNIFICANCE OF THE STUDY

The fast increasing population builds up the need for tapping the vast opportunities to increase food production, particularly paddy. Rice is water intensive crop and given the restricted availability of irrigation potential, increasing the area under the crop to increase rice production calls for huge investments in irrigation. Therefore, removing the obstacles in marketing the product is essential to ensure that paddy producers get remunerative prices for their produce. Now, tracing the bottlenecks in production and marketing of paddy, and suggesting ways and means to accomplish the task of increasing paddy production are vital. The increase in paddy production will help develop rice-processing industries. These agro-based industries will create backward linkages like supply of credit, inputs and production enhancement services, and forward linkages like processing and marketing. Such a development will add to the value of farmers‟ produce, generate employment opportunities and increase the incomes.

METHODOLOGY

Required literature was collected based on the theoretical background. Both primary data and secondary data was collected and analysed. Stratified random sampling technique was used to study the data collected from

Eight taluks namely Kumbakonam, Orathanadu, Papanasam, Pattukkottai, Thiruvaiyaru Peravurani, Thanjavur, Thiruvaiyaru and Thiruvidaimarudur. For the purposes of collecting primary data, taluk-wise lists were obtained from the Project Office, District Rural Development Agency and Office of Regional Manager, Tamil Nadu Civil Supplies Corporation. There are six stages are used for identify the heterogeneous factor value.

 As the ***first stage***, the researcher has taken only the farmers of paddy.

 The ***second stage***, the farmers of paddy must have own land for paddy cultivation.

 In ***third stage***, the researcher has taken only the farmers of paddy and they must continuously cultivate the paddy in past three years.

 In the ***fourth stage***, with in the three categories the researcher identifies the selected farmers among these categories and gives equal importance for all eight taluks.

 In the ***fifth stage***, there are 125 farmers of paddy were selected randomly from each taluk. Following the above procedure, 1,000 farmers of paddy have been selected from the entire stratum taken together.

 Finally, all raw data are systematically arranged, tabulated and tested using Cronbach's alpha fitness test through Statistical Package for Social Sciences (SPSS). Only the fitted data was taken for the purpose of analysis.

STATISTICAL APPLICATIONS

The Statistical Package for Social Sciences (SPSS) was used in the analysis of the data collected in this research. On the basis of the answers given by the respondents a null hypotheses was framed which involves statistical tools for test hypothesis, such as Percentage analysis, coefficient of variation, Trend analysis, Average, Fitness Test, Analysis of Variance, Chi-square analysis, Factor analysis, Tree Structured analysis, Neural Network Model, Multiple Regression, Correlations, Wilcoxon Signed Rank Test.

LIMITATIONS OF THE STUDY

The opinion of the respondents might encounter some degree of deviation due to their biased attitude and lapse of memory. In addition, the opinion collected might change from place to place, time to time and from people to people.

As the geographical area of the study is limited to Thanjavur District, the findings may not reflect the average global scenario.

No records were maintained in the farms studied. Hence, cost particulars were obtained orally from the farmers and as such, the accuracy was limited by their bias.

II. REVIEW OF LITERATURE

Sharma (2013) examined India’s commitment related to domestic support under the AoA and agricultural modalities in context of Doha ministerial negotiations. The study found that India does not have any commitment to reduce domestic support under AoA because Aggregate Measure of Support (AMS) is below deminius level. Further, the study examined the revised draft of Doha negotiations and concluded there is no reduction commitment related to OTDS and final bound AMS. Therefore, in total, the study concluded that India has more flexibility to provide Blue Box and Green Box subsidies to its agricultural sector.

Nagaraj et al (2013) conducted a study to assess the knowledge and adoption level of paddy growers of Raichur district about farm mechanization practices. The study reported that majority of the respondents had complete knowledge, i.e., mode of operation, frequency of use and specification of the implements such as moldboard plow, harrow, cultivator, power tiller, cage wheel, paddler, sprayer, combine harvester and thresher. Further, less than half of the respondents (42.50 per cent) belonged to medium level of adoption category.

Ayoade and Akintonde (2012) in their study assessed the adoption of agricultural innovations among rural women farmers in Isokan Local Government Area of Osun State. To achieve this major objective, the study identified the

 DOI : 10.18231/2454-9150.2019.0445

socioeconomic characteristics of the respondents as well as agricultural innovations introduced and their extent of use. Also the study determined the effects of technologies used on agricultural production. The result of findings revealed that a positive and significant relationship exists between the constraints encountered and adoption level of Agricultural Innovation. It was also revealed that late adoption of innovations was due to irregular visits of extension agent. The major constraint revealed in the study was unstable market price, which has seriously affected the women's activities. Therefore the study recommends that the government should enforce price stabilization policies which will control market prices so as to reduce shortage and losses.

Ojo et al (2012) Agricultural resource access and the influence of socioeconomic characteristics among women in Borno State, Nigeria was the main objective of this study. The major findings of the study showed that respondent's socioeconomic characteristics indicated high levels of illiteracy, non-membership of cooperatives, no extension contact and low access to credit. Access to production resources including fertilizers, agrochemicals, family and hired laours and land ownership were low. Some socioeconomic factors influenced the likelihood of women's access to production resources. These factors included cooperative membership, years of schooling, farm income, extension contact, off- farm income, family size, age, farming experience and farm size. The study recommended that agricultural development planners should work at enhancing rural women's access to socioeconomic factors which enhance their access to production resources for more efficient agricultural productivity.

Prasanna, Bulankulama and Kuruppuge (2012) identified and analyzed the likelihood factors affecting on farmers' higher gain from paddy marketing in the North Central Province of Sri Lanka, where the main paddy cultivation area of the country. The required data was collected from 257 farmers during July to August 2010. The study found that imperfections of existing paddy marketing system in the area due to concentrated market power among few oligopolistic buyers. Furthermore, land size, land ownership, poor accessibility in formal sector credit market and farmers involvement in informal sector credit sources are critical to farmers' decisions to gain higher returns from paddy marketing. The results further showed the need of reviewing the roles and functions of government extension services and farmer organizations with regard to the paddy marketing.

Folayan (2011) conducted a study to examine the socio economic status of Fadama farmers in Akure South Local Government area of Ondo State. The findings from the study showed that the major constraint was the new technology, adequate funding and improved input supply and provision of infrastructure. The study recommended that education of farmers should be encouraged while soft loan, agricultural inputs and research assistance be provided by Government. The implication findings from this study were that men were more actively involved in Fadama farming than the female, enough profit was generated to sustain the family while cooperative society was a predominant source of capital in fadama farming in the study area.

III. ANALYSIS AND INTERPRETATION OF DATA

MEAN AND STANDARD DEVIATION FOR EXPECTATION OF THE FARMER

Table no. 1 Mean and standard deviation for expectation of the farmer

Mean and standard deviation for expectation of the farmer	Mean	Std. Deviation
Support from NGOs	4.15	1.013
Holding of auction sales by Agricultural departments	4.18	.846
Direct sales to consumers	4.16	.771
Immediate cash	4.21	.778
setting up a network of regulated markets	4.28	.781
Help form Cooperative society	4.33	.844
Common go down facility in villages	4.24	.784

Source: Output generated from SPSS 20

From the above table, the identified mean for all the attributes of the expectation of the farmer factors involved rendering the activities in the paddy marketing shows that, 'Support from NGOs, Holding of auction sales by Agricultural departments, Direct sales to consumers, Immediate cash, setting up a network of regulated markets, Help form Cooperative society and Common godown facility in villages' falls on the scale as Slightly agree.

FRIEDMAN TEST FOR SIGNIFICANT DIFFERENCE BETWEEN MEAN RANKS OF EXPECTATION OF THE FARMER

Null Hypothesis: There is no significant difference between mean ranks towards the expectation of the farmer.

 DOI : 10.18231/2454-9150.2019.0445

Alternative Hypothesis: There is a significant difference between mean ranks towards the expectation of the farmer.

Table no. 2 Friedman test for significant difference between mean ranks towards expectation of the farmer

Expectation of the farmer	Mean Rank	Chi-Square value	Degrees of freedom	Asymp. Significant
Support from NGOs	3.87	92.164	5	.000
Holding of auction sales by Agricultural departments	3.89			
Direct sales to consumers	3.87			
Immediate cash	3.92			
setting up a network of regulated markets	4.16			
Help form Cooperative society	4.30			
Common godown facility in villages	4.00			

Source: Output generated from SPSS 20

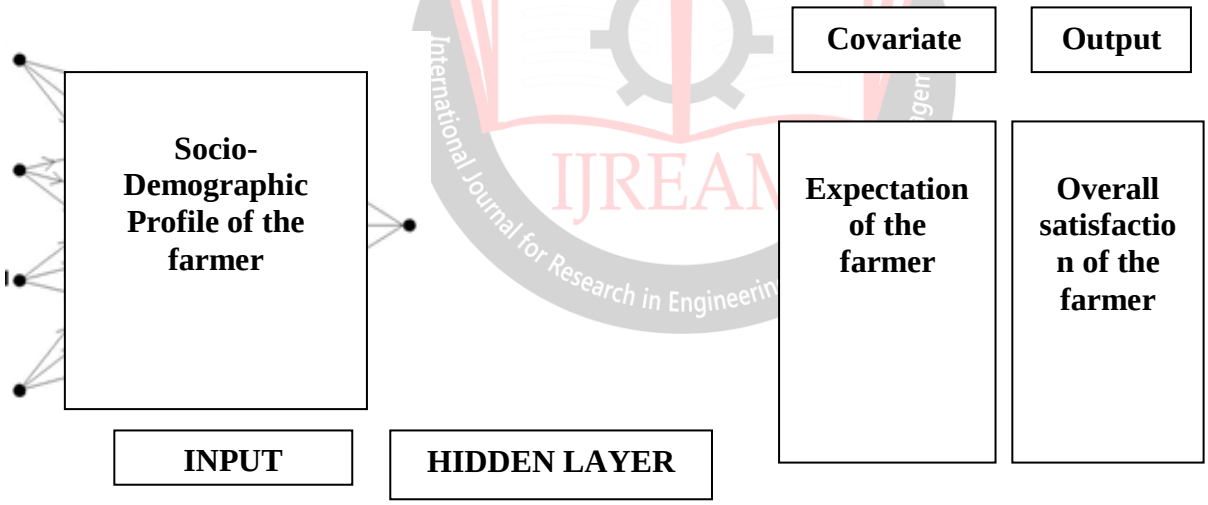
From the above table, it is found out that all the variables related to the expectation of the farmer activities had significance value less than 0.05 at 1 Per cent significance, thus the null hypothesis is rejected. Thus, it is concluded that there is significant difference between mean ranks towards expectation of the farmer. Out of the seven expectation of the farmer variables, the "Help form Cooperative society" has the highest rank (4.30). So, that expectation of the farmer is influenced by Help form Cooperative society.

ANALYSIS OF OVERALL SATISFACTION OF THE FARMER TOWARDS EXPECTATION OF THE FARMER BY USING THE NEURAL NETWORK (NN) METHOD

The architecture which provides the best fit for the data is the network with twelve input layers, seven covariate variables and one hidden layers and one output layer,

Figure 1

Basic Neuron Model for overall satisfaction of the farmer towards expectation of the farmer



The neuron has a set of "n" inputs "x"j, where the subscript "j" takes a value from 1 to "n" and indicates the source of the input signal.

Each input "x"j is weighted before reaching the main body of the processing elements, by the connection strength or weight factor "wj". (Multiplied by "wj"). In addition, it has a bias term "w"0, a threshold value that has to be reached or exceeded for the neuron to produce a signal, a non-linearity function F that acts on the produced signal (or activation) R, and an output O. The non-linearity function used in this network is the sigmoid. The sigmoid is very popular because it is monotonic, is bounded, and has a derivative: f"'(s) = kf (s) [1-f(s)]. The model used in this work is the Feed Forward Multilayer perception, using the Back Propagation Algorithm. Where (4-3-1)

12-Input layers

7-Covariates layers

1-Hidden layers

 DOI : 10.18231/2454-9150.2019.0445

1-Output layer

All inputs are analyzed in the experimental validation part, with appropriate output results by the illustration of graphs so that the influences of the parameters of tensile strength are taken into consideration. The network information is presented in the table.

Table no. 3 Model Summary for Neural Network Model expectation of the farmer

Training	Sum of Squares Error	361.421
	Relative Error	1.031
	Stopping Rule Used	1 consecutive step(s) with no decrease in error[a]
	Training Time	0:00:01.06
Testing	Sum of Squares Error	139.571
	Relative Error	.991
Dependent Variable: Overall satisfaction of the farmer		
a. Error computations are based on the testing sample.		

Source: Output generated from SPSS 20

Table no.4 Neural Network Model for overall satisfaction of the farmer towards the expectation of the farmer

Input Layer	Factors	1	Gender
		2	Marital Status
		3	Age group
		4	Education
		5	Source of Income
		6	Monthly Income
		7	No of family members
		8	Family Type
		9	Experience
		10	Nature of house
		11	Loan from Bank
		12	Availing Concession
	Covariates	1	Support from NGOs
		2	Holding of auction sales by Agricultural departments
		3	Direct sales to consumers
		4	Immediate cash
		5	setting up a network of regulated markets
		6	Help form Cooperative society
		7	Common godown facility in villages
		Number of Units[a]	45
		Rescaling Method for Covariates	Standardized
Hidden Layer(s)		Number of Hidden Layers	1
		Number of Units in Hidden Layer 1[a]	8
		Activation Function	Hyperbolic tangent
Output Layer	Dependent Variables	1	Overall satisfaction of the farmer
	Number of Units		1
	Rescaling Method for Scale Dependents		Standardized
	Activation Function		Identity
	Error Function		Sum of Squares
a. Excluding the bias unit			

Source: Output generated form SPSS 20.

The factors of activities of the expectation of the farmer model parameters are modeled by using the Neural Network Method. The parameters are optimized so as to determine the set of parameters, which will influence the increase in the Overall satisfaction of the farmer towards, Neural Networks Architecture and network information.

Table no .5 Independent Variable importance for Neural Network Model for the overall satisfaction of the farmer towards the expectation of the farmer

Independent Variable Importance	Importance	Normalized Importance
Gender	.031	22.0%
Marital Status	.038	27.0%
Age group	.033	23.6%

 DOI : 10.18231/2454-9150.2019.0445

Education	.052	36.9%
Source of Income	.045	31.6%
Monthly Income	.032	22.5%
No of family members	.056	39.3%
Family Type	.013	9.3%
Experience	.024	17.0%
Nature of house	.046	32.8%
Loan from Bank	.060	42.4%
Availing Concession	.034	24.2%
Support from NGOs	.057	40.2%
Holding of auction sales by Agricultural departments	.051	36.3%
Direct sales to consumers	.092	64.7%
Immediate cash	.070	49.3%
setting up a network of regulated markets	.141	100.0%
Help form Cooperative society	.053	37.5%
Common godown facility in villages	.071	50.5%

Source: Output generated from SPSS 20

IV. FINDINGS

1. Among the expectation of the farmer factors involved rendering the activities in the paddy marketing Help form Cooperative society was the basic expectation of the farmers.
2. The farmers also wanted immediate cash for their produce
3. Lack of regulated markets was a threat for the farmers to market their products
4. Performance of the NGO's was not upto the mark to satisfy the farmers in Thanjavur District
5. It was not possible for the farmers to sell their products directly to the consumers
6. Adequate storage facilities was not available

V. SUGGESTIONS

1. Credit sales should be reduced and farmers must be paid immediately while procuring their produce
2. Reasonable price must be provided to the farmers
3. Adequate transport and storage facilities should be provided to the farmers to safeguard their produce
4. Finance must be made available to the farmers, when they are in need.
5. NGO's should modify their methodology in assisting the farmers.
6. Performance of the co-operative societies must be improved

VI. CONCLUSION

Thanjavur is a dealtaic region where rice is the major food crop that is grown in the fields. Rice production has increased in the recent years and thus it is being largely exported to the neighboring states, which is further boosting up the economy of Thanjavur. The department of agriculture has been taking effective measures in order to improve the agriculture of Thanjavur. Adequate supply of quality seeds, better irrigation facilities, adoption of system of rice intensification, etc would go a long way in sustaining and increasing the productivity of paddy in the district. Thanjavur district stands unique from time immemorial for its agricultural activities and is rightly acclaimed as the granary of South India lying in the deltaic region of the famous river Cauvery and crises-crossed by lengthy network of irrigation canals. In spite of its name and fame the farmers in Thanjavur had been expecting basic factors for improving their production and marketing attributes which is the need of the hour.

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 DOI : 10.18231/2454-9150.2019.0445