Problems in Paddy Cultivation reference to Palakkad District.

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Abstract

Greater part of Indian economy is depends on the agriculture sector, whereas it faces many problems and downfalls. In particular, this paper evaluates the problems in paddy cultivation reference to Palakkad district. Since, Palakkad and Alappuzha districts are the major contributors (57.87%) of the total paddy production of the state. The analysis result states that low price of paddy is the main problem among the list of problems considered for evaluation. Similarly, mean problem score has found significant difference among the type of farmer and type of seeds.

Keywords: Paddy, Oryza Sativa, labour shortage, water scarcity, seeds quality

1. INTRODUCTION

The performance of Indian economy is largely depends on agriculture sector. It provides employment to more than 60 percent of the workforce in India. As per the economic survey of 2013-14 the growth of agriculture is only 1.4 against the target 4 percent per annum. The food grain production during the year 2013-14 was 265.62 million tons; this is declined by 8.5 million in the advance estimate for the year 2014-15. This decline in cereal crops including paddy is the result of irregular rainfall. In order to improve agricultural sector in desired direction the only solution is to adopt scientific and modern agricultural technologies. Rice farming is about 10000 years old. The rice species Oryza Sativa were discovered at Korat area of Thailand and Yangtze and Huai river basins of China. The two largest rice producing countries in the world are China and India. Rice production and yield of China is higher than India because of the irrigation facility available. In India the irrigated paddy fields was less than half of the total paddy area.

Out of top 10 rice producing states West Bengal ranks first in terms of paddy production. West Bengal contributed 14.28 percent of total paddy production to the Indian economy. Out of 28 states and Union territories, all these 10 states contribute around 83 percent of paddy production in India. Aggregate production for the rest of the 18 states and union territories constitute only 17 percent of the national paddy production. Kerala states paddy production status is far below the major rice producing states, contributed only 0.48 percent and this state depends other paddy producing state for the staple food rice. Palakkad and Alappuzha are the two districts which produces rice in the state with a production share of 37.23 percent and 20.58 percent respectively. Palakkad district contributes more than one third of rice to Kerala state.

Palakkad district and Alappuzha district are known as the rice bowls of Kerala together contributes 57.87% of the total paddy production in the state.

2. LITERATURE REVIEW

Dhian Singh Bhan (1990) examined the behavioural pattern of farmers regarding the fertilizer usage and problems faced by the farmers such as availability of chemical fertilizer, finance situation and transport facility. An important finding of the study was lack of awareness about the optimum use of fertilizer to be applied to different crops both Rabbi and Khariff. Further, carelessness of farmers, improper guidance from the department, lack of co-ordination between farmers and concerned staff, and illiteracy among farmers were discussed.

Thomas (1996) studied the state level analysis of area, production and current problems in paddy cultivation. The data was collected from Alleppy and Kottayam districts. Important problems of rice cultivation identified are decline in the number full time dedicated farmers, Aversion of younger generation towards paddy farming, farmer's reluctance to take second crop, land leasing system, labour shortage, low wages, economic status of farmers, wage and nature of work, abnormal increase in input costs, indebtedness to non institutional credit, lack of proper marketing system, lack of guidance from research institutes, inadequate infrastructure development etc.

Nyein Htwe, and Khin (2000) examines the farmers adoption behaviour with respect to rice production technology, the reason for non adoption of technology and to find out the difficulties faced by paddy cultivators in the study area. The survey identified some major problems faced by the farmers practicing the rice cultivation. The most important problems were unavailability of irrigation water, management of hired transplanters, difficulty in obtaining yard manure, high cost of urea and potash, scarcity of labour in peak season and higher labour cost.

Sall et al., (2000) demonstrates farmer's perception regarding the adoption decision of improved rice varieties in Senegal. Major problems faced by farmers are non availability of labours, off farm activities and information about farm activities.

Thomas et al., (2002) reviewed the performance of paddy sector in a village level case study based on Kuttanad region in Kerala. Labour shortage, declining profitability, crop failures, inadequate research and extension service and aggressive trade unionism are the important problems of farmers.

Lakshminarayan et al., (2011) conducted a study in Nanjangud taluk of Mysore in Karnataka state during 2010 to know the present farm technologies in paddy cultivation. Lack of technical knowledge, pest and disease problems of paddy, high cost of agricultural input and non–availability of inputs on time are the major constraints encountered by the paddy farmers. Farmers Ranks high cost and non availability inputs were the foremost problems faced by them.

Raja Mohammed (2011) assessed the income and employment of farmers in relation with agricultural technology adoption of paddy cultivation in Thanjavur district of Tamil Nadu. Important problems faced by agriculture sector in the study area is water scarcity, low price of output, high price of input such as fertilizer, pesticides ,seeds etc Agricultural extension programmes were weak and it is in favour of large farmers and land lords. Further, many of the farmers are not aware of crop insurance schemes.

Sharma et al., (2013) studied the economic analysis of rice productivity and factors affecting rice yield in Himachal Pradesh after the introduction of the improved variety of rice in the year 2005. The important problems and constraints responsible for yield gap are small and fragmented holdings, low use of farm yield manure, low level of mechanization, and lack of new varieties for different agro climatic regions, various biotic and abiotic stresses, inadequate seed multiplication mechanism in the state.

Pushpa et al., (2014) assessed the level of technology adoption and constrains faced by the paddy growers of Deoria District of Uttar Pradesh. For measuring adoption level of technology, deviations from recommended practices were examined and for measuring constraints faced by farmers were evaluated by ranking the problems of farmers in paddy cultivation.

Hari Kumar and Mageshwari (2015) examined the marginal farmer's socio economic conditions, their characteristics, living standards and their problems with special reference to Puduchery. High labour cost and shortage of agricultural labourers are the important problems faced by marginal farmers in the study area.

3. METHODOLOGY

The main objective of this research is to validate the problems in paddy cultivation reference to Palakkad district, which is a backward district in terms of educational and socio-economic status. Further, 70 per cent of the people living in Palakkad are engaged in agricultural activities especially in paddy cultivation. A structured questionnaire was formed to collect the feedback from the farmers involved in the paddy cultivation. It is a descriptive study hence descriptive research design is applied. Proportionate random sampling technique was used to collect the data. The Palakkad district is comprised of 13 blocks, among these blocks first top five paddy producing blocks such as Chittur , Kuzhalmannam, Kollengode, Nemmara and Alathur were selected for the present study. A total of 600 farmers were selected from five blocks each with 120 respondents comprising small, medium and large farmers.

4. RESULTS & DISCUSSION

Palakkad is one of the major players in paddy cultivation among the Kerala state and it involves various activities in the agricultural farms. In general, the agricultural production is drastically reducing while comparing with the population growth based on various reasons. Therefore, discovering the problems in the agricultural production helps to sustain the farmers for long time. In this paper, problems in the paddy

cultivation considered for evaluation, which compares the paddy cultivation settings with list of problem factors. The cultivation settings contains type of farmer, nature of land ownership, financial source, water source, type of seeds and the place of seeds purchased. Similarly, ten problem factors are considered for evaluation. Weighted average score analysis is performed to prioritize the problems faced by the respondents in the paddy cultivation.

Table 1: Avg. Score – Problems in Paddy Cultivation

Problems in Paddy Cultivation	Avg. Score	Final Rank
Low quality of seeds	2.38	9
Labour shortage	4.05	4
Inadequate equipment	2.99	8
Fertilizer problem	3.26	7
Weeds problem	4.57	2
Water scarcity	3.60	6
Flood problem	1.47	10
Low price for paddy	4.66	1
Inadequate support price	4.50	3
Marketability problems	4.01	5

Source: primary data

The above depicts the weighted average score analysis of the problems in paddy cultivation, which is computed based on the respondents' opinion in Likert's scaling method. The final rank is nominated on the basis of highest score to lowest score. Therefore, the priority of problems as follows; low price for paddy (4.66), weeds problem (4.57), inadequate support price (4.5), labour shortage (4.05), and marketability problem (4.01). Similarly, water scarcity (3.6), fertilizer problem (3.26), inadequate equipment problem (2.99), low quality of seeds (2.38), and flood problem (1.47). The key finding states that low price for paddy (avg. score = 4.66) is considered as a major problem among the list of problems considered for evaluation.

Paddy cultivation settings may have difference on the severity of the problems associated with paddy cultivation. The following analysis shows the analysis of variance to validate the difference among the level of problems faced while cultivating paddy with its paddy cultivation settings. The table 2 depicts the analysis of variance between paddy cultivation settings and mean problems score while cultivating paddy. The F-value and p-value observed from the table as follows; type of farmer (F-value = 17.740,   p-value = 0.000), nature of land ownership (F-value = 0.470, p-value = 0.493), financial source (F-value = 1.394, p-value = 0.249), water source (F-value = 1.242, p-value = 0.290), type of seeds (F-value = 5.746, p-value =

0.017), and place of seeds purchased (F-value = 0.013, p-value = 0.910). It is observed from the result that type of farmer and type of seeds factors' p-values are less than the level of significance 0.05. Therefore, the result confirmed the difference among the categories only on those factors

Hypothesis: Is mean problems score of paddy cultivation has any significant difference among the paddy cultivation settings?

Table 2: ANOVA – Mean Problems Score vs. Paddy Cultivation Settings

Paddy Cultivation Settings		Problems in Paddy cultivation				
		N	Mean	SD	F-value	p-value
Type of Farmer	Small	200	3.63	0.30	17.740	0.000
	Medium	200	3.56	0.29		
	Large	200	3.46	0.28		
	Total	600	3.55	0.30		
Land Ownership	Own	593	3.55	0.30	0.470	0.493
	Both	7	3.47	0.25		
	Total	600	3.55	0.30		
Financial Source	Personal Money	165	3.58	0.29	1.394	0.249
	Loan	44	3.52	0.31		
	Both	391	3.54	0.30		
	Total	600	3.55	0.30		
Water Source	Rainfall	2	3.45	0.49	1.242	0.290
	Canal	581	3.55	0.30		
	Others	17	3.44	0.33		
	Total	600	3.55	0.30		
Type of Seeds	HYV	592	3.55	0.30	5.746	0.017
	Local	8	3.80	0.20		
	Total	600	3.55	0.30		
Place of Seeds Purchased	Government	226	3.55	0.32	0.013	0.910
	Own	374	3.55	0.29		
	Total	600	3.55	0.30		

Source: primary data   Significance tested at 5% level

The key finding states that the mean paddy cultivation problem score has found significant difference among the type of farmer and type of seeds considered in this study. The result depicts that the

small farmers are facing more problem than medium and large farmers. Similarly, the farmers who are using local seeds are facing more problem than HYV seeds.

5. CONCLUSION

Agricultural sector is playing a vital role in the Indian economy. Recently it faces many problems such as poor rainfall, less profit, labour problem and so on. In this paper, problems in paddy cultivation are examined reference to Palakkad district. A total of 600 respondents were participated in this research. The analysis result reveals that low price of paddy is the main problem among the list of problems considered for evaluation. The level of agreeability towards the problem is converted into a problem score and validated with the selected paddy cultivation settings. The analysis result states that problem score has found significant difference among the type of farmer and type of seeds. Therefore, the sensitivity of the problem towards paddy cultivation varies based on the type of farmer and type of seeds used by the respondents.

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