



Constraints Faced by Paddy Farmers in Kerala: An Empirical Analysis in Palakkad

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HIGHLIGHTS

- The inadequate strategic planning, inadequate collateral, and conversion of paddy fields to commercial ventures were the severe most components of leadership, financial, and agro-ecological issues.
- Farmers can benefit from conducting market research on the value-added products of paddy.
- The farmers were concentrated solely on conventional rice varieties as such varietal diversification was required.

ARTICLE INFO

Keywords: Kerala, Paddy farmers, Palakkad, Constraints, Leadership and Management.

<https://doi.org/10.48165/IJEE.2024.604RN3>

Conflict of Interest: None

Research ethics statement(s):

Informed consent of the participants

ABSTRACT

The demand for rice is high in Kerala, therefore, the quality and quantity of paddy cultivation have a prominent role in Kerala. Among the various districts in Kerala, Palakkad has the highest paddy production in Kerala. However, it was observed that paddy cultivation in Palakkad district has been gradually declining over the past 20 years, both in terms of area and production. Earlier studies have shown that paddy cultivation faced various constraints. However, previous studies have rarely addressed the hurdles faced by paddy farmers in Palakkad. In this context, the present study was conducted during December 2023 to investigate and identify the constraints faced by farmers in Palakkad district in paddy cultivation. The present study used quantitative and qualitative methods to collect the data to achieve this objective. The study identified five major interlinked but distinct areas of constraints. The most important areas in which restrictions existed were; leadership and management, finance, marketing, agroecological, and inputs. Based on these findings, this study argues that paddy farmers and the Government should be receptive and responsive to the ever changing systems of paddy farming.

INTRODUCTION

For many years, paddy has been a significant food crop in Kerala. Unfortunately, the amount of land dedicated to paddy cultivation has drastically decreased since the 1980s. In 1974-75, paddy cultivation occupied 8.82 lakh hectares in the state, but by 2019-20, it had alarmingly reduced to 1.66 lakh hectares. According to the Kerala Economic Review of 2023, paddy cultivation constituted only 7.6 per cent of the total cultivated area in the state from 2021-2022 to 2022-2023. The cultivation of paddy varies across the districts of the state. Palakkad, Alappuzha, Thrissur, and Kottayam districts account for approximately 81.2 per cent of

the total rice production in the state. Palakkad district has the highest share in rice production (41%), followed by Alappuzha (16%), Thrissur (14%), and Kottayam (9%), respectively. Palakkad district ranked first in terms of area and production of rice in the state, followed by Alappuzha District. However, when it comes to productivity, Malappuram district ranked first, followed by the Thrissur district (Kerala Economic Review, 2023).

Over time, the area of land utilized for paddy cultivation in Kerala has dwindled. This can be attributed to several factors, such as the conversion of agricultural land for non-agricultural purposes. The decline in paddy farming can be traced back to various reasons, including insufficient profits, inadequate government support,

increasing wages for agricultural labour, fluctuating paddy prices, high demand for land, poor varieties of seeds, unscientific methods of cultivation, and small and fragmented farms (Dass & Ramawat, 2009; Anitha & Chellappan, 2011; Karunakaran, 2014; Devi et al., 2017; Abraham, 2020; Nithin et al., 2020; Deepa et al., 2021; Krishnankutty et al., 2021; Jayaprada et al., 2023). For instance, in the past, the area under cultivation amounted to 115910 hectares in Palakkad and it drastically came down to 76916 hectares over the period from 2002-03 to 2022-23. Amongst the four districts renowned for paddy cultivation in Kerala, Palakkad district exhibits the lower level of productivity. Moreover, there has been a notable decline in the area of land which was dedicated to paddy in Palakkad. Consequently, this study aimed to address the constraints associated with paddy cultivation and production in Palakkad.

METHODOLOGY

The study was conducted in December 2023 in Palakkad district in Kerala. There are thirteen development blocks in Palakkad. Palakkad district is divided into three geographical regions based on the area and productivity of the paddy. From each region, one block panchayat was randomly selected. From 3 sample blocks, 18 village panchayats were chosen randomly. From each village panchayath, 20 farmers were selected. Altogether 360 farmers were selected for the final survey. Subsequently, a questionnaire was prepared. A pilot study was conducted to modify the questionnaire. Subsequently, final survey was conducted.

Multi-dimensional questions were utilized to identify the constraints faced by paddy farmers in Palakkad. The present study used ‘Henry Garrett’s’ ranking technique to prioritize these constraints. This approach is followed to identify key areas that can provide support and interventions to help farmers overcome these challenges and improve their yields and livelihoods (Garrett & Woodworth, 1969; Zalkuwi et al., 2015). This method entails assigning numerical scores to changes in constraint order. Numerical constraints were compiled in a table format, taking into account the current conditions of the area in question. During the survey, respondents were asked to rank the constraints impartially. The resulting rank was then transformed into a percentage position using the standard formula.

RESULTS

The data in part A of Table 1 reveal that the inadequate strategic planning was the most serious component in leadership constraint. Farmers faced various levels of problems in the area of leadership. The conversion of paddy fields to commercial ventures was the severe most components of agroecological constraint. Respondents expressed that ‘inadequate collateral’ is the most important financial hurdle for farmers as they couldn’t access loans from the organized sector. As they primarily cultivate on leased land, accessing loans from the organized sector can be challenging due to the lack of collateral (Muralidharan et al., 2015; Nithin et al., 2020). They were forced to approach the unorganized sector to finance the paddy cultivation. The unorganised sector charged a high rate of interest which in turn negatively affected their investment and profit. These factors negatively affected their profit in paddy cultivation. Apart from these components, the initial debt

Table 1. Constraints of paddy cultivation

Leadership constraint	Component	
	Score	Rank
Inadequate collaboration with fellow farmers	38	5
Scarce strategic planning	71	1
Insufficient technical training for farmers	62	2
Scanty market research	56	3
Deficient pooling of paddy fields	31	6
Infrequent association of farmers with local agricultural office	46	4
Unsatisfactory knowledge of subsidy schemes	23	7
Agroecological constraint		
High temperature during the paddy growth	32	5
Heavy rain during the time of harvest	24	6
Conversion of paddy fields to commercial ventures	72	1
The high price of paddy fields due to the pressure from the real estate market	66	2
High intensity of weed problem	44	4
Inadequate pest management	53	3
Financial constraint		
Initial debt position of paddy farmers	46	4
Inadequate financial investment in paddy	63	2
Deficient profit from paddy cultivation	54	3
Insufficient insurance coverage to crop	23	6
Heavy dependence on paddy crops alone	37	5
Inadequate collateral position of paddy farmers to access loan	77	1
Inputs constraint		
Inadequate mechanization of farm operations	62	3
High cost of efficient labor	81	1
High rental charges to machinery during harvest and sowing seasons	50	5
Difficulty in the application of machinery in fragmented and scattered holdings	56	4
Sub-optimum availability of water in seasons	44	6
Insufficient supply of electricity	39	7
Inadequate availability of high-yielding variety of seeds	69	2
The nature of the topography and inadequate fertility of the land isunfavorable	20	9
Inadequate weather forecasting system	31	8
Marketing constraint		
Dominance of millers in marketing the paddy	54	3
Inadequate knowledge of farmers about the market price	24	6
Inadequate paddy societies to collaborate	63	2
Unscientific storage facilities of farmers for paddy	31	5
Inadequate grading of paddy	42	4
Inadequate production of value-added products from paddy	75	1
Lack of mass-media contact with paddy farmers	21	7

position of paddy farmers, heavy dependence on paddy crops for sustenance, and insufficient insurance coverage for crops have also hindered the growth of paddy cultivation (Suresh & Reddy, 2006; Sarala, 2011; Monikha et al., 2021).

Input constraint and its components-wise intensity are exhibited in part B of Table 1. It was revealed that the high cost of efficient labour was the major hurdle faced by paddy farmers in

connection with input constraint. Inadequate availability of a high-yielding variety of seeds was perceived as the second most important problem among farmers while inadequate mechanization of farm operations was the third obstacle in input constraint. Respondents disclosed that the difficulty in the application of machinery in fragmented and scattered holdings, high rental charges to machinery during harvest and sowing seasons, sub-optimum availability of water in seasons, insufficient supply of electricity, inadequate weather forecasting system, and the nature of the topography and inadequate fertility of the land were the minor problems with reference to the inputs constraint. The inadequate production of value-added products from paddy cultivation was the most serious component of marketing constraint faced by respondents in Palakkad. Farmers suggested that farmers can benefit from conducting market research on the value-added products of paddy. They expressed that farmers were concentrated solely on conventional rice varieties and failed to diversify into value-added products from paddy. In addition, in terms of component-wise hurdles in marketing constraint, the dominance of millers in marketing the paddy was the also significant difficulties faced by them.

DISCUSSION

Among components of various constraints under consideration, input constraint was found to be the major constraint faced by respondents. It could be due to inadequate mechanization, suboptimum water supply, high cost of inputs, and insufficient knowledge and application of high-yielding varieties of seeds in paddy farming. The findings on input constraint appear to be supported by Dass & Ramawat (2009); Ravikumar & Sudheesh (2013); Gupta et al., (2013); Shamna et al., (2017); Deepa et al., (2021); Sahu et al., (2021); Kaur & Sharma (2022) & Kour et al., (2023). Findings on financial constraints uncovered that most of the respondents faced inadequate collateral position of paddy farmers to access loans. Besides this component, the inadequate collateral position of paddy farmers to access loans, inadequate value-added products from paddy, conversion of paddy fields into commercial ventures, and poor strategic planning were also found to be major hindrances in paddy cultivation. It may be due to the insufficient institutional credit, low profitability, and high cost of inputs of paddy farming. These findings seem to be backed by Reddy et al., (2001); Nithin et al., (2020) & Jayaprada et al., (2023).

The findings on marketing constraint indicates that the farmers have rarely conducted adequate market research on various factors such as demand for different varieties of rice, price fluctuations, export-promotion strategies, inter-district markets for paddy, and competition from other major states. This scenario hurt paddy farming, particularly in the effective allocation of resources, storage facilities, grading of products, and development of sound marketing strategies. To maximize profits from paddy cultivation in Kerala, it is important to focus on value-added products. It might be because farmers rarely manufacture value-added goods and enhance their marketing strategies to access the internal market and export markets. Furthermore, insufficient paddy cooperative societies to support farmers were another cause of this scenario. These findings appeared to be similar to the works by Reddy et

al., (2001); Das et al., (2014); Monikha et al., (2021); Sahu et al., (2021); Riya & Ajithkumar (2023) & Dalal et al., (2024). Farmers expressed that the negative impact of weeds on the growth of their paddy crops was severe. Furthermore, challenging conditions such as elevated temperatures during the growth phase and heavy rainfall during harvest time have presented obstacles to sustainable paddy cultivation in the district. In addition, deteriorating soil and water quality hurt paddy farming. These findings appear to be supported by Srinivasan (2012); Ravikumar & Sudheesh (2013); Shamna & Vasantha (2017); Nithin et al., (2020); Mishra & Malik (2024). The constraints were pointed towards the insufficiency of leadership and decision-making skills. Farmers expressed that lack of lack of knowledge on appropriate strategic planning and collaboration were major hurdles to them. There were very few cooperative societies dedicated solely to paddy cultivation. Leadership skills, risk-taking capacity, and innovation may be improved through regular training programmes to update the latest developments in research. These findings are seemingly backed by Shamna & Vasantha (2017); Deepa et al., (2021); Sahu et al., (2021) & Chandregowda et al., (2022).

CONCLUSION

The present study found that farmers faced several constraints that impeded the growth and advancement of paddy cultivation. While these constraints varied in intensity, policy-level and farm-level initiatives must work in tandem to mitigate their impact. To commence this effort, it is crucial to strengthen the technical, managerial, and leadership capabilities of the farmers. This can be achieved through capacity-building measures like awareness programs and training sessions within the district. In addition to these direct actions, certain indirect measures are also necessary at the policy level. State and Central government-led paddy-specific initiatives along with inter-state and inter-country collaboration programmes will be fruitful. A combination of farmer and policy-level initiatives is necessary to deal with the constraints of paddy cultivation.

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