



Constraints in Paddy Procurement in Kerala: Farmers' Perspectives

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Authors' contributions

This work was carried out in collaboration between both authors. Author RS conducted the survey and data analysis and prepared a primary manuscript draft. Author SB edited the manuscript. Both authors read and approved the final manuscript.

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ABSTRACT

Paddy is a staple food crop in Kerala State, and the government's paddy procurement policy aims to support and strengthen farmers by ensuring a Minimum Support Price as well as maintaining market stability. The study aimed to identify and prioritise farmers' challenges in the paddy procurement system. The study was conducted during the agricultural year of 2023-2024 in the Palakkad and Alappuzha districts, the major rice-growing tracts among the districts of this State. A total of eight Panchayats were randomly selected from the two major procurement centres in each district, and ten farmers were randomly chosen from each Panchayat, resulting in a sample size of 160. The application of Garrett's ranking technique assessed the intensity of each constraint and ranked them among the top ten identified constraints. The study found that the absence of immediate payment of procurement price was the most significant issue with a total Garrett score of 12260 and an average score of 76.62. This delay in payment causes financial difficulties for

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farmers in continuing the cultivation for the next season. The difficulty to meet quality standards of procurement was the next severe challenge for the farmers. The study recommended policy interventions to overcome the challenges in paddy procurement in the State.

Keywords: Decentralized procurement system; constraints in procurement; garrett ranking; payment of procurement price; quality standards.

1. INTRODUCTION

Paddy is one of the major food crops cultivated in Kerala; according to the (Government of Kerala, 2023a; Government of Kerala, 2023b), the crop covers an area of 2.05 lakh hectares of land, with a production of 6.3 lakh tonnes and a productivity of 3105 Kg/Ha. Over the past decades, the area under paddy cultivation has been declining in Kerala, indicating the lags in production as well as meeting the food requirement of the State. Still, paddy cultivation practices have a significant role, such as managing floods through proper drainage systems, conserving the rich flora and fauna, and maintaining the State's landscape. Paddy is a less profitable crop due to the high cost of cultivation and lesser market price. However, various Government support mechanisms exist to support the paddy cultivation in Kerala. The State has been following a robust system of procurement for paddy since 2006.

The Food Cooperation of India (FCI), a nodal agency, is responsible for paddy procurement in the country. Procurement is mainly done by two systems: centralized procurement system, wherein FCI directly procures, and decentralized procurement system (DCP), under which State government and its agencies directly procure, store, and distribute the food grain. Kerala follows a DCP system, where Kerala State Civil Supplies Corporation Limited (SupplyCo), the state agency, has been actively involved in paddy procurement from 2006 onwards. The direct procurement made by SupplyCo eliminates the intermediaries, ensuring fair prices for both producers and consumers (Devika & Vijayan, 2024). The SupplyCo procures paddy through the rice millers, and the collected paddy is delivered by them as Custom Milled Rice (CMR) to the SupplyCo for distribution through the Public Distribution System (PDS). The quantity of paddy procured by the rice mills in collaboration with SupplyCo is based on the bank guarantee provided by the mill (Vijayan, 2022). The procurement system is mainly carried out to maintain the buffer stock, which ensures the country's food safety, stabilizes market prices,

and empowers the farmers by fixing the Minimum Support Price (Parikh & Singh, 2007). In Kerala, the state announces an additional State Incentive Bonus (SIB) along with the MSP and hence offers a higher price for paddy farmers. A study conducted by Johnson, (2023) compared the price received by farmers in paddy procurement in Kerala and Adat Village of Thrissur district during 2018 -19 and concluded that the procurement price is 2.1 times the average cost of cultivation in Kerala and 2.2 times in Adat village.

Despite the efforts taken by the Central and State governments, the farmers face numerous challenges in the paddy procurement system. The rising cost of cultivation of paddy is a major threat for the marginal and small farmers of Kerala. According to National Sample Survey, (n.d.), due to a shortage of operating capital, a sizable part of marginal and small farmers in India, more than 60% and 35%, respectively, depend significantly on unofficial sources of income. Due to the severe financial crisis, small and marginal farmers now turn to local money lenders for loans, which frequently have extremely high interest rates (Mosse et al., 1997; Kumar et al., 2007). The paddy farmers also operate under various environmental and production risks like climate change. The Minimum Support Price and the procurement system are the only risk mitigation mechanisms for the most vulnerable paddy farmers. Hence, the present study identified the constraints in the state's paddy procurement system.

2. METHODOLOGY

The study was conducted in the selected Panchayats of Palakkad and Alappuzha districts, being the major rice-growing tracts of Kerala. From each district two highest procuring centres were purposively selected, and eight Panchayats were randomly selected from each procurement center. Ten farmers from each village were selected randomly, which constituted a total of 160 respondents. Primary data was collected through meetings with the officials, focus group discussions, and interviews with farmers using a structured interview schedule. Major constraints

in paddy procurement were thus identified, and the respondents ranked them according to their experiences. Garrett's ranking technique, a qualitative approach was used to study the constraints, where the percent score is converted into the Garrett score, and ranking is done on the average of the Garrett score. The technique helped to understand the severity of the problems while comparing them to the simple frequency distribution.

2.1 Garrett Ranking Technique

The technique involves ranking; the respondents ranked the constraints according to their level of relevance. The study identified ten constraints, and 160 farmers were asked to rank the ten constraints in the order of their severity. The results of the rankings were transformed into percent position using the following formula,

$$\text{Percent position} = \frac{(R_{ij} - 0.5)}{N_j} \times 100$$

Where

R_{ij} = Rank given for the i^{th} variable by j^{th} respondents

N_j = Number of variables ranked by j^{th} respondents

The percent position estimated is converted into Garrett value by referring to the Garrett table

given by Garrett & Woodworth, (1969). Then, the Garrett value is multiplied by the number of farmers, and the total value is calculated. The rank was given to the average of the Garrett score.

3. RESULTS AND DISCUSSION

The study identified the major constraints faced by the farmers in the procurement process, such as the payment system, especially the delay in payment, which weakens the farmers financially and aggravates the problems of vulnerable farmers. Garrett ranking technique used in the study identified the absence of ready payment of procurement price as the major problem, with the Garrett score of 12260 and an average of 76.62. The second rank was obtained for the constraint as the difficulty to meet quality standards of procurement, with a score of 9188 and an average of 57.42. A similar finding was reported by Gohain & Singh, (2018) in a study conducted across 12 villages in Punjab, where the primary challenge in marketing paddy and wheat was the delay in procurement at the market, followed by the payment deduction by the commission agent due to the high moisture level in grains. Another study conducted in the Palakkad and Alappuzha districts of Kerala by Dharan, (2015) highlighted that the primary challenges faced by the paddy procurement agency included inadequate infrastructure for procurement, shortage of skilled labor, and delays in fund transfers.

Table 1. Overall rank based on the average of Garrett score

Constraint Analysis at Kerala	Total Garrett score	Average score	Rank
Lack of ready payment of procurement price	12260	76.62	I
Difficulty to meet quality standards of procurement	9188	57.42	II
Payment mode of procurement price available only as PRS loans	9160	57.25	III
The loading-unloading issue during procurement	8084	50.52	IV
Lack of timely procurement	7634	47.71	V
Restrictions on the quantity of procurement	7260	45.37	VI
Lack of proper storage leads to pest and disease attacks and quality loss	6930	43.31	VII
Difficulty in dealing with the field agents of millers involved in procurement	6860	42.87	VIII
The place of procurement is not convenient	6733	42.08	IX
Lack of multiple agencies for procurement	5571	34.81	X

The mode of payment in the form of a PRS (Paddy Receipt Slip) loan was identified as the third constraint, with a score of 9160 and an average of 57.25. The study revealed that only a minor difference was observed between the scores of the second and third constraints. The loading-unloading issue during procurement was the fourth problem, with a Garrett score of 8084 and an average of 50.52, followed by the lack of timely procurement as the fifth constraint, which is mainly observed in Palakkad district with a score of 7634 and an average of 47.71. The lack of multiple agencies for procurement was recognized as the least-rated constraint, with a score of 5571 and an average of 34.81. The total Garrett score and the average of various constraints are listed in Table 1.

The first three constraints, viz., absence of ready payment, difficulty to meet quality standards of procurement proposed by SupplyCo, and payment mode as PRS (Paddy Receipt Slip) loans, were identified in the study as the common challenges faced by the paddy farmers in the State. The other constraints are geographic-specific and depend on the micro situation around the farmers and the stakeholders involved.

3.1 Absence of Ready Payment of Procurement Price

The study showed that only 16% of farmers received their payments within four weeks, 21.8% between four and eight weeks, 18.75% within eight to twelve weeks, and 43% waited more than twelve weeks. Paddy is procured in the State at Rs.28.20 per kilogram, with Rs.21.38 covered by the central government, Rs.6.7 by the state government, and Rs.0.12 allocated for handling charges. The central government releases funds to the State only after the rice is distributed to consumers. The state government borrows from banks to pay farmers and issues funds as PRS loans (Paddy Receipt Slips (PRS) are the slips of acknowledgment issued by the SupplyCo agency for the paddy procured from the farmers). The delay is mainly due to the time required for the bank and government to complete the necessary formalities. In effect, this process causes much burden to the farmer. The lack of a ready payment system throws them into a financial crisis, which creates a capital shortage for the next season's crop, making the farmers rely on mortgaging gold, and eventually become indebted.

3.2 Difficulty to Meet Quality Standards of Procurement

Supplyco adheres to quality standards by limiting moisture content to 17%, mixing with other paddy varieties to 6%, diseased or germinated grains to 4%, chaffy grains to 3%, and extraneous organic and inorganic materials to 1% each, and colour-changed seeds to 1%. However, farmers face various challenges in coping with these quality standards. The erratic rainfall or drought can destroy crops and trigger pest and disease outbreaks. The sudden onset of rain during the harvest period usually creates problems in post-harvest management, especially in maintaining the moisture content of grains. Farmers in the Palakkad district, which receives less rainfall than other districts, can maintain a moisture content of 17% as they have drying yards and even dry on natural rocks. On the contrary, in Alappuzha, the flood-prone district, it is difficult for farmers to control the moisture content, resulting in a high rejection rate. A study by Keerthi, (2018) reported that if the moisture content is excessive, the total weight procured is reduced by SupplyCo. Notably, 57.5% of farmers keep the harvested paddy in the open field till procurement. There are no warehouses or other permanent storage facilities for the safe storage of grains. Due to these situations, farmers fail to meet the procurement quality standards, resulting in losses.

3.3 Payment Mode of Procurement Price as PRS Loans

On completing procurement, the payment is made as a loan on the PRS. Farmers who apply for these loans at the earliest are more likely to receive timely payments. However, once the State's initial loan fund is exhausted, payments are delayed until the State repays the initial amount to the Bank. This non-payment by the State to the Bank is ultimately accounted as the PRS loan default by the individual farmer. The PRS loans as a payment method foster an unfavourable attitude among farmers due to their lengthy and cumbersome process. Farmers feel that delay in the government's repayment of the PRS loan to banks could lower their CIBIL scores, leading to adverse consequences when seeking other banking services.

3.4 The Loading-unloading Issue During Procurement

The union or loading workers set the charge based on the sack number. Disagreements arise

due to the varying weights of sacks, such as 45kg or 55kg. The presence of dust, sand, hay, and other particles in the paddy can alter the weight of the sack, leading to discrepancies. These variations in sack weight cause confusion among both loading workers and farmers, often resulting in disputes. Instances of double-loading can also exceed the government-mandated handling charge limit. In Alappuzha district, paddy is initially loaded onto boats and then transferred to trucks at a central point. In the remote areas of Palakkad, paddy is first transported by local vehicles or pickup vans before being reloaded onto larger trucks sent by the mills. Thus, most small and marginal farmers cannot bear the mounting loading-unloading charge.

3.5 Lack of Timely Procurement

The differences in harvesting times result in delays in timely procurement in Palakkad district. These variations in harvesting schedules among members of the same *Padasekkara Samithi* (group farm) are primarily due to a lack of synchronized sowing. The study found that 2.5% of farmers faced a waiting period of more than twelve weeks, 6.25% waited between eight to twelve weeks, 13% waited four to eight weeks, and 78.12% had to wait for a period of one to four weeks for procurement. However, in the Alappuzha district, there were only slight delays of one or two days in procurement, as they follow synchronized farming practices through group farming.

3.6 Restrictions on the Quantity of Procurement

The study identified the restriction on the quantity procured as the sixth important constraint: an average yield of 2200-2600 Kg of paddy per acre. The State government takes this measure to prevent the black market prevailing in the Palakkad district. Due to the state incentive, the procurement price is higher in Kerala than in the neighboring states. Hence, there is the possibility of malpractice in bringing rice from other states in the name of local farmers. The farmers of Palakkad opined that they experienced an increase in paddy yield (3-3.5 tonnes per acre) when mechanically transplanted due to optimum spacing and plant population. When farmers gain increased yield, Krishi Bhavans carries out crop-cutting practices and issues certificates for excess yield, which is time-consuming.

3.7 Lack of Proper Storage Leads to Pest and Disease Attacks and Quality Loss

The study found that 57.5% of farmers use an open storage system. Paddy quality deteriorates over time in open storage, increasing the risk of exposure to rodents, pests, and diseases. Changing weather conditions also affect the germination and blackening of the paddy. Additionally, the likelihood of mixing with other crop seeds, varieties, and organic and inorganic materials rises, ultimately reducing the quality of the harvested paddy. This type of quality loss ultimately leads to loss of profit for farmers.

3.8 Difficulty in Dealing with the Field Agents of Millers Involved in Procurement

In a decentralized procurement system, private millers are assigned to procure paddy directly from farmers' fields for the State agency (SupplyCo). The primary duty of the mill agent is to collect the harvested paddy, keep the quality assurances, and fix the rejection rate. Unscientific quality assurance methods followed by the farmers often cause disputes between farmers and the mill agents. The moisture content is one of the major quality parameters analysed during the procurement process. The SupplyCo has fixed a standard moisture content of 17%, and an increase in the moisture content increases the rejection rate, which is the main cause of a dispute between the farmers and the mill agents. Under this circumstance, there needs to be more awareness among the farmers about the quality parameters to be followed. A more fair dispute settlement mechanism involving various officials must also be instilled.

3.9 Inconvenient Place of Procurement

In the remote villages of Palakkad and Alappuzha, transporting paddy poses challenges due to geographic constraints. Limited transportation options in several village areas force farmers in these remote locations to bring their paddy to a central collection point. Additionally, in Alappuzha, waterway transportation adds further inconvenience for farmers. However, most farmers benefit from convenient transportation services, with vehicles reaching their farms directly.

3.10 Lack of Multiple Agencies for Procurement

SupplyCo is the sole agency involved in paddy procurement in Kerala. The study revealed that only 1.8% of farmers sell their produce to private agencies, while 98.2% rely entirely on government agencies. Previously, Cooperative societies played a significant role in paddy procurement, providing farmers with a satisfactory payment system. While farmers generally view SupplyCo's procurement positively, delays in payment have led to frustration. Hence, farmers also favour the involvement of other agencies, like cooperative societies, in possible locations, for paddy procurement.

4. CONCLUSION

The study highlights key constraints paddy farmers face in the procurement system of Kerala, focusing on the delays in payment, quality standards, and logistical challenges. Despite the robust structure of the Decentralized Procurement System and the State's efforts to provide fair prices to farmers through the Minimum Support Price and State Incentive Bonus, the findings indicate that operational inefficiencies and procedural delays undermine its effectiveness. Addressing these issues requires a multi-faceted approach, introducing an automated, real-time payment system, mechanisms to improve quality standards, and offering more flexible payment options that would result in more farmer satisfaction. Expanding the involvement of other agencies, like cooperative societies for procurement, in possible locations would also foster competition and potentially improve services for farmers.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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