



Identifying and Analysing Constraints in the Branded Rice Market: A Comprehensive Study of Stakeholders in Kerala, India

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

The study assessed the various constraints faced by the stakeholders in branded rice market in Kerala. These stakeholders include farmers, exporters, non-exporting private rice manufacturers, co-operative society, wholesalers, retailers and consumers. By examining the constraints across the branded rice market from production to consumption, the study aimed to identify the critical issues like, production constraints, procurement constraints, marketing constraints, institutional constraints export constraint and financial constraints. A sample of 30 farmers and one agent, five exporters and 10 non-exporters 20 wholesalers and 30 retailers and 120 consumers from Ernakulam and Palakkad districts were selected for the study.

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The study identified the major problems faced by the stakeholders of branded rice market by using Garret's ranking method. Farmers were facing difficulties in rice production due to high input costs, high labour costs and untimely availability of water. Delay in procurement from SUPPLYCO and adequate facilities for drying and cleaning compel them to sell their produce in the open market. There was a communication gap between institutions and farmers. Lack of transportation facilities, high maintenance cost of machinery and financial difficulties were the major constraints faced by PADDICO. High transportation cost, high international trade barriers and price volatility were the major constraints faced by private manufacturers of branded rice. Heavy documentation & procedures was the major constraint faced by exporters. Lack of demand of branded rice was the major constraint faced by resellers. High price was the major constraint faced by the consumers. The high cost of production faced by farmers can be reduced by improved mechanisation in the rice cultivation. The study also recommended the suggestions for the constraints of other market stakeholders of branded rice market.

Keywords: Branded rice; PADDICO; constraints; garret's ranking; contract farming.

1. INTRODUCTION

The branded rice market in Kerala plays a pivotal role in the state's agricultural economy. It directly affecting the livelihoods of farmers and influencing consumer preferences. The market involves a wide range of stakeholders, including farmers, exporters, non-exporting private rice manufacturers, co-operative society, wholesalers, retailers, and consumers. These stakeholders face diverse constraints that impact the efficiency, profitability, and long-term sustainability of the branded rice market.

Numerous studies have examined the rice market in Kerala and India, often focusing on general market conditions, production challenges, and supply chain inefficiencies. For instance, Krishnan [1] analysed the supply chain of rice in Kerala, identifying gaps in procurement and distribution processes. Nair et al. [2] highlighted the issues related to market price fluctuations and the limited access of small-scale farmers to branded rice markets. However, the unique constraints faced by each player in the branded rice market have not been sufficiently studied. Specifically, challenges like inconsistent procurement policies, regulatory hurdles for exporters, competitive pricing pressures on retailers, and quality concerns for consumers remain underexplored.

This study aimed to bridge the research gap by investigating the constraints faced by all stakeholders involved in the branded rice market in Kerala. The primary objective of the study was to assess the constraints faced by the stakeholders in the branded rice market of Kerala. By providing a holistic understanding of these challenges, the researcher recommends

suggestions to improve market conditions, and to overcome the constraints in the branded rice market.

2. MATERIALS AND METHODS

2.1 Location of the Study

Based on the convenience of the researcher, the Kerala was selected as the location for the study.

2.2 Period of Study

The survey was conducted during the period of October, 2023 to September, 2024.

2.3 Sources of Data

Both primary and secondary sources were used for the collection of data. Primary data was collected from farmers, exporters, non-exporters, wholesalers, retailers and consumers by using pre-tested structured interview schedule separately for different stakeholders. Secondary data was collected for the area, production, per capita rice consumption and cost of cultivation of rice, from published reports of Department of Economics and Statistics and other official websites of Government of Kerala, Government of India and Food and Agriculture Organisation.

2.4 Sample Selection

A sample of 30 farmers, five exporters, 10 non-exporters, one co-operative rice mill, 20 wholesalers, 30 retailers and 120 consumers were provided the data.

3. RESULTS AND DISCUSSION

The researcher identified the various constraints faced by the stakeholders in the branded rice market in Kerala. The farmers who sold their produce in the open market were selected for the study. They were selling their paddy mainly to the co-operative society and private rice manufacturers. From the cultivation to handover the produce to manufacturers, the farmers were facing many challenges. The manufactures including co-operative society were also faced constraints in procurement, processing and marketing of the produce. The resellers, who plays an intermediary role also facing constraints in the rice market. The final stakeholders in the rice market were consumers, the constraints faced by them also discussed in the study.

3.1 Constraints Faced by Farmers in the Branded Rice Market

The constraints faced by farmers were identified by the researcher for the study. It includes the constraints that compel farmers to enter into the branded rice market and the constraints faced by them in the existing scenario. Those constraints were classified into production, procurement, marketing, institutional and financial constraints. The respondents were ranked based on the order or constraints they faced from most to less impactful. The researcher analysed the response by using Garrett ranking method.

Production constraints of farmers: The farmers are facing constraints from land preparation to sales of their produce. As well as the farmers were overcoming the several stages of the paddy production. They were facing the issues in production mainly related to inputs,

mechanisation, pest & disease and gambling of monsoon. The Table 1 helps to get a clear picture about the constraints faced by the farmers in the study.

Table 1 clearly showed that, the farmers faced major constraints such as high input costs, high labour costs and untimely availability of water. They didn't experienced issues related to the unavailability of inputs or difficulties with mechanisation, as these resources were rented from nearby Tamil Nadu on a seasonal basis. However, during the Virippu season, they struggled with excessive weed growth, which complicates production.

Procurement constraints of farmers: The procurement on paddy from farmers to the rice manufacturers is an important stage. As the farmers sold their produce to SUPPLYCO in the earlier years, the delay in procurement by them also act as a constraint to farmers. The study revealed that, mainly the procurement constraints compel the farmers of Kerala to sell their produce in the open market. The procurement constraints and the corresponding ranks are listed in Table 2.

Table 2 showed major constraints faced by farmers in procurement includes, delay in procurement from SUPPLYCO, high loading charges and in adequate facilities for drying and cleaning [3]. The lack of demand from rice manufacturers leads to a low selling price earned by the farmers. The farmers were ranked the conflict between agents & farmers and delay in procurement by private rice manufacturers as less significant. This was because, farmers were reluctant to confront agents, as they represented the last resort for selling their produce.

Table 1. Production constraints of farmers (n=30)

| Production constraints | Score | Average | Rank |
|---|-------|---------|------|
| High cost of inputs | 1962 | 65.4 | 1 |
| High cost of labour | 1927 | 64.23 | 2 |
| Untimely availability of irrigation | 1860 | 62 | 3 |
| Excessive weed growth | 1828 | 60.93 | 4 |
| Occurrence of pests and diseases | 1714 | 57.13 | 5 |
| Uneven rainfall pattern | 1552 | 51.73 | 6 |
| Scarcity of labour | 1525 | 50.83 | 7 |
| Non availability of inputs | 1440 | 48 | 8 |
| Insufficient availability of irrigation | 1381 | 46.03 | 9 |
| Difficulties related to mechanisation | 1295 | 43.17 | 10 |
| Inadequate supply of quality seeds | 1165 | 38.83 | 11 |
| Attack from wild animals | 901 | 30.03 | 12 |
| Natural calamities | 740 | 24.67 | 13 |

Table 2. Procurement constraints of farmers (n=30)

| Procurement constraints | Score | Average | Rank |
|--|-------|---------|------|
| Delay in procurement from SUPPLYCO | 2288 | 76.27 | 1 |
| High loading charges | 1683 | 56.1 | 2 |
| Inadequate facilities for drying and cleaning | 1669 | 55.63 | 3 |
| Lack of demand | 1276 | 42.53 | 4 |
| Quality rejection issues | 1271 | 42.37 | 5 |
| Conflicts between procurement agents and farmers | 1226 | 40.87 | 6 |
| Delay in procurement by private rice manufacturers | 997 | 33.23 | 7 |

Table 3. Marketing constraints of farmers (n=30)

| Marketing constraints | Score | Average | Rank |
|---------------------------------------|-------|---------|------|
| Delay in payment from SUPPLYCO | 2311 | 77.03 | 1 |
| Lack of storage facility | 1902 | 63.4 | 2 |
| High transportation cost to warehouse | 1637 | 54.57 | 3 |
| Lack of transportation facilities | 1497 | 49.9 | 4 |
| More distance to marketing centres | 1418 | 47.27 | 5 |
| Undue interference of agents | 1239 | 41.3 | 6 |
| Losses occurred in transit | 1170 | 39 | 7 |
| Delay in payment from private millers | 706 | 23.53 | 8 |

Table 4. Institutional constraints of farmers (n=30)

| Institutional constraints | Score | Average | Rank |
|---|-------|---------|------|
| Communication gap between institutions and farmers | 2250 | 75 | 1 |
| Political influence in rental government machineries | 1446 | 48.2 | 2 |
| Intervention of political parties in the procurement industry | 1431 | 47.7 | 3 |
| MNREGA not covering paddy | 1179 | 39.3 | 4 |
| Ineffectiveness of Kerala Paddy Land and Wetland Conservation Act, 2018 | 1134 | 37.8 | 5 |

Marketing constraints of farmers: The SUPPLYCO was given high price to the farmers in Kerala. But in recent years there was a delay in the payment by the SUPPLYCO to the farmers. That was indirectly affected the farmers and attracted them to enter into the branded rice market. so, here is an attempt to rank the marketing constraints faced by farmers.

Table 3 showed the marketing constraints of farmers. The delay in payment from SUPPLYCO, lack of storage facilities and high transportation cost to warehouse were ranked as the most significant constraints [4] in the Table 3. The lack of storage facility and high expenses for transportation and storage compel the farmers to sell off the produce at the earliest. In contrast, losses due to transit and delays in payment from rice manufacturers were considered the least significant. The timely payment and reduced logistical expenses were the factors that attracted farmers by the private rice manufacturers.

Institutional constraints of farmers: The institutional constraints faced by farmers include legal and political constraints like restrictive laws, unnecessary government interference and administrative neglect. These problems can make it harder for farmers to access resources and run their production and marketing smoothly. Those constraints are identified and shown in Table 4.

Table 4 showed that the communication gap between institutions and farmers was ranked as first. Farmers responded that the communication gap between Padasekharams, Krishibhavan and SUPPLYCO leads to delay in procurement from farmers. The political influence in rental machines forced the farmers to rent the machines at a high cost from agents. Finally, that leads to the increased the input cost of the farmers. The selected farmers were actually not bothered about MNREGA and Kerala Paddy Land and Wetland Conservation Act, 2018. They were not preferring the MNREGA labours. The amendment of the Kerala Paddy land and

Wetland Conservation Act, 2018 was much more flexible and favours the farmers.

Financial constraints faced by farmers: As paddy cultivation is a costly process, the farmers may face constraints of financial aspects. It is an important factor, and farmers mainly depends on the government for the support. Table 5 shows the identified financial constraints faced by the farmers.

Table 5 indicated that, lack of adequate subsidy from government act as a significant constraint faced by farmers and ranked it as one. The farmers were facing constraints to get sufficient quantum of credit from financial institutions. In addition to that, there was a lack of source of information about credit among the farmers. The financial support for recovering loss was ranked as last. The farmers responded that they got sufficient amount of insurance from the government under the crop insurance scheme Pradhan Mantri Fasal Bima Yojana (PMFBY) in the last year.

3.2 Constraints Faced by Manufacturers of Branded Rice

The constraints faced by the rice manufacturers plays a significant role in the branded rice market. The constraints faced by the private rice manufacturers and co-operative society is distinguishes and presented it here. As there was only one co-operative society performed in the branded rice market, there is no need for applying Garret ranking method.

Procurement constraints faced by manufacturers of branded rice: The private rice manufacturers of branded rice and co-operative society were facing the procurement constraints due to different reasons. The private manufacturers were procuring rice directly from farm gate, but the co-operative society sold their vehicle in 2009 due to the financial problems faced by them. So, the farmers were bring and sell their produce at co-operative society. The Table 6 listed the major procurement constraints faced by these two rice manufacturers.

Table 6 showed that the private rice manufacturers were incurring high transportation cost, but they were not lacking the transportation facilities. The increased price of the fuels was the reason behind this particular constraint. As mentioned in the introduction of the table, the co-operative society was lacking transportation facilities and that results high transportation costs in another way. The private rice manufacturers facing constraints on storage and maintenance cost. They pointed out that the maintenance including electricity, equipment maintenance or even utility cost associated with these were high [5]. The co-operative society lacks storage facilities and they incurred high maintenance cost from old age equipment and machines. The non availability of paddy and interstate procurement constraints ranked as least significant, because of the strong presence of interstate agents and rice manufacturers to connect beyond the states.

Processing constraints faced by manufacturers of branded rice: Processing of the paddy into the branded rice plays and important role among the rice manufacturers. So, the constraints faced by them in this stage must be identified. The manufacturers may be facing constraints on quality standards, availability of water, packaging and storage for branded rice.

Table 7 showed that lack of storage facility of the co-operative society act as a significant constraint of them. Both of the manufacturers were facing difficulty to meet the quality standards on processing of rice. It was specifying about the rice processing constraints that intended to meet the international demand. The both exporter and non-exporters opined that the processing guidelines or the regulatory standards to meet the international demand was strict. They specified about the fertiliser parameter to be avoided for international market. The maintenance of hygiene and sanitation in the processing also act as a constraint among the rice manufacturers. Even though it doesn't act as a constraint in the domestic market, it was act as a processing constraint related to the international demand as well.

Table 5. Financial constraints faced by farmers (n=30)

| Financial constraints | Score | Average | Rank |
|---|-------|---------|------|
| Lack of adequate subsidy from government | 1878 | 62.6 | 1 |
| Lack of sufficient quantum of credit | 1515 | 50.5 | 2 |
| Lack of information on source of credit | 1476 | 49.2 | 3 |
| Resistance of bank to avail credit | 1446 | 48.2 | 4 |
| Untimely availability of credit | 1394 | 46.47 | 5 |
| Lack of financial support for recovering loss | 1231 | 41.03 | 6 |

Table 6. Procurement constraints faced by manufacturers of branded rice

| Procurement constraints | Private manufacturers of branded rice (n=15) | | | Co-operative society (n=1) |
|------------------------------------|--|---------|------|----------------------------|
| | Score | Average | Rank | Rank |
| High transportation cost | 1235 | 77.19 | 1 | 2 |
| High storage & maintenance cost | 892 | 55.75 | 2 | 4 |
| Low quality grain | 858 | 53.63 | 3 | 5 |
| Interstate procurement constraint | 839 | 52.44 | 4 | 6 |
| Non-availability of paddy | 621 | 40.31 | 5 | 7 |
| Lack of transportation facilities | 621 | 38.81 | 6 | 1 |
| Lack of storage facility for paddy | 462 | 28.88 | 7 | 3 |

Table 7. Processing constraints faced by manufacturers of branded rice

| Processing constraints | Private manufacturers of branded rice (n=15) | | | Co-operative society (n=1) |
|--|--|---------|------|----------------------------|
| | Score | Average | Rank | Rank |
| Difficulty in meeting regulatory and quality standards | 974 | 64.93 | 1 | 2 |
| Difficulty in maintaining hygiene and sanitation | 880 | 58.67 | 2 | 3 |
| Difficulty in quality control | 866 | 57.73 | 3 | 4 |
| Lack of availability of water | 772 | 51.47 | 4 | 5 |
| Lack of skilled labour | 685 | 45.67 | 5 | 7 |
| Difficulty in developing attractive product packaging | 550 | 36.67 | 6 | 6 |
| Lack of storage facility | 478 | 31.87 | 7 | 1 |

Table 8. Marketing constraints faced by manufacturers of branded rice

| Marketing constraints | Private manufacturers of branded rice (n=15) | | | Co-operative society (n=1) |
|--|--|---------|------|----------------------------|
| | Score | Average | Rank | Rank |
| Price volatility | 1182 | 78.80 | 1 | 1 |
| High cost of packaging materials | 1083 | 72.20 | 2 | 6 |
| High market competition | 903 | 60.20 | 3 | 7 |
| Lack of sufficient marketing budget | 897 | 59.80 | 4 | 2 |
| Distribution problems | 745 | 49.67 | 5 | 5 |
| Lack of consumer awareness about brand | 740 | 49.33 | 6 | 4 |
| High promotional cost | 594 | 39.60 | 7 | 3 |
| Lack of skilled marketing personnel | 541 | 36.07 | 8 | 10 |
| Difficulties in market research | 390 | 26.00 | 9 | 9 |
| Difficulties in digital marketing | 350 | 23.33 | 10 | 8 |

Marketing constraints faced by manufacturers of branded rice: Marketing function of the branded rice plays a significant role in the market. The private rice manufacturers mainly rely on wholesalers and retailers for this function. While the co-operative society market their produce through their own outlets. Still, both of them face many constraints and those are listed and ranked in Table 8.

Table 8 showed that the private rice manufacturers were ranked the price volatility in the market as a major constraint faced by them [6]. As the rice market in Kerala mainly depends on the other states for rice, the supply from them influenced the price of rice in the local market within Kerala. Secondly, the co-operative society lacks budget for marketing, while the private manufacturers ranked the second rank for high

package cost [6]. Both of these rice manufacturers were not seen the digital marketing and market research as a constraint to them.

Institutional constraints faced by manufacturers of branded rice: Rice manufacturers were going through significant challenges due to institutional constraints like high international trade barriers, steep tax rates and strict government regulations. These factors along with price controls limit their ability to compete and grow in the market. the institutional constraints faced by rice manufacturers were illustrated in Table 9.

Table 9 reflected that all the rice manufactures including co-operative society ranked the high international trade barriers as a significant constraint. To ensure the domestic price stability, the government banned exports of non-basmati white rice on 20th July, 2023 can be read along with this. There was 20 per cent export duty also implemented on white rice in 2022. The second rank was given to the high tax rates, which was implemented by the government from 18th July 2022 onwards. These two constraints connected to the rules and regulations of the government, which was ranked as third.

Financial constraints faced by manufacturers of branded rice: The researcher identified that; the rice manufacturers were struggling with

financial constraints. This starts from contributing the seed capital and never ends. Some of the major financial constraints and their corresponding ranks done by the rice manufacturers are shown in the Table 10.

Table 10 depicted that; both private rice manufacturers and co-operative society ranked high capital investment as a major constraint faced by them [7]. For meeting the investment, they took loan from the financial institutions. The rice manufacturers opined that sometimes the interest rates charged by the financial institutions were intolerable. The co-operative society was pass through a high financial crisis, mainly due to the high interest charged for their loans as well as the high maintenance cost associated with the machines which was 26 years old. Due to the financial crisis faced by the co-operative society in 2006, they temporarily shut down for it a year and after that they sold their vehicle as a temporary source of finance.

Export constraints faced by manufacturers of branded rice: Exporters of branded rice face several challenges during the export process. only five exporters were selected for the study. the constraints faced by them was listed. These includes dealing with complicated regulations and paper work, managing high shipping costs and transportation delays and difficulty to meet varying quality standards in different countries. The ranks for the corresponding constraints are listed in Table 11.

Table 9. Institutional constraints faced by manufacturers of branded rice

| Institutional constraints | Private manufacturers of branded rice (n=15) | | | Co-operative society (n=1) |
|-------------------------------------|--|---------|------|----------------------------|
| | Score | Average | Rank | Rank |
| High international trade barriers | 1080 | 72 | 1 | 1 |
| High tax rates | 840 | 56 | 2 | 2 |
| Rules and regulations of government | 597 | 39.8 | 3 | 3 |
| High price controls | 453 | 30.2 | 4 | 4 |

Table 10. Financial constraints faced by manufacturers of branded rice

| Financial constraints | Private manufacturers of branded rice (n=15) | | | Co-operative society (n=1) |
|---------------------------------------|--|---------|------|----------------------------|
| | Score | Average | Rank | Rank |
| High capital investment | 1113 | 74.20 | 1 | 1 |
| High interest rates for borrowed fund | 902 | 60.13 | 2 | 3 |
| High energy cost | 897 | 59.80 | 3 | 5 |
| High maintenance cost for machinery | 738 | 49.20 | 4 | 2 |
| High labour cost | 661 | 44.07 | 5 | 4 |
| Lack of subsidies | 553 | 36.87 | 6 | 7 |
| High depreciation cost | 341 | 22.73 | 7 | 6 |

Table 11. Export constraints faced by manufacturers of branded rice (n=5)

| Export constraints | Score | Average | Rank |
|---|-------|---------|------|
| Heavy documentation & procedures to be followed for export | 359 | 71.8 | 1 |
| High transaction cost | 351 | 70.2 | 2 |
| High tariffs and duties | 340 | 68 | 3 |
| Varying quality standards in different countries | 255 | 51 | 4 |
| Difficulty in negotiating the price with buyers | 253 | 50.6 | 5 |
| Difficulty in finding packaging materials to suit the export requirements | 225 | 45 | 6 |
| System breaks down in customs | 202 | 40.4 | 7 |
| High warehouse cost at the port | 150 | 30 | 8 |
| Rejection of export materials | 95 | 19 | 9 |

Table 12. Constraints to enter into international market by non-exporters

| Constraints to enter into international market | Private non- exporters (n=10) | | | Co-operative society (n=1) |
|---|-------------------------------|---------|------|----------------------------|
| | Score | Average | Rank | Rank |
| Heavy documentation & procedures to be followed for export | 686 | 68.60 | 1 | 1 |
| High transaction cost | 667 | 66.70 | 2 | 3 |
| High tariffs and duties | 666 | 66.60 | 3 | 2 |
| Difficulty to find buyers from international market | 570 | 57.00 | 4 | 4 |
| Difficulty in negotiating the price with buyers | 464 | 46.40 | 5 | 5 |
| Varying quality standards in different countries | 458 | 45.80 | 6 | 6 |
| Difficulty in finding packaging materials to suit the export requirements | 400 | 40.00 | 7 | 8 |
| High warehouse cost at the port | 348 | 34.80 | 8 | 9 |
| Rejection of export sample | 201 | 20.10 | 9 | 7 |

From the Table 11, it can be understood that, the exporters were facing heavy documentation & procedures to export their rice. the costs associated with the export transaction was also high and ranked it as second. The government was imposing high tariffs and duties on rice export and it act as a constraint to the exporters. The warehouse cost and rejection of export materials were ranked as least significant, as it was not faced by the exporters in their past experiences.

Constraints to enter into international market by non-exporters: The non-exporters including co-operative society, encounter numerous challenges when attempting to access international markets. The Table 12 mentioned some of the constraints faced by them, related to documentation, tariffs & duties and quality standards maintained by the international markets [8]. The non exporters were ranked them according to the significance and the researched presented it in Table 12.

Table 12 showed that, all the non- exporters including co-operative society ranked the heavy documentation & procedures for export as a first

constraint faced by them. The private non- exporters ranked high transaction cost and high tariffs and duties as their next major constraints, while co-operative society ranked high tariffs and duties as second and transaction cost as third. High warehouse cost and rejection of the export samples are also noted, but they are considered less significant overall as they didn't even enter into that stage.

3.3 Constraints Faced by Resellers

The resellers are the distributors in the branded rice market. they were also faced constraints while connecting the rice manufacturers and consumers. The constraints faced by both wholesalers and retailers in their operations were identified, ranging from market demand issues to high operational costs. These constraints not only impact the efficiency of their business but also influence their ability to provide consistent supplies to consumers. The constraints of both the stakeholders were separately identified, ranked and presented in the Table 13 and Table 14.

Table 13. Constraints faced by wholesalers (n=20)

| Constraints | Score | Average | Rank |
|---------------------------------------|-------|---------|------|
| Lack of demand | 1508 | 75.4 | 1 |
| High loading & unloading charges | 1365 | 68.25 | 2 |
| Price volatility | 1180 | 59 | 3 |
| High storage & energy cost | 969 | 48.45 | 4 |
| High transportation cost | 898 | 44.9 | 5 |
| Lack of quality | 853 | 42.65 | 6 |
| High commission for interstate agents | 673 | 33.65 | 7 |
| Non-availability of rice | 474 | 23.7 | 8 |

Table 14. Constraints faced by retailers (n=30)

| Constraints of retailers | Score | Average | Rank |
|----------------------------------|-------|---------|------|
| Lack of demand | 2262 | 75.4 | 1 |
| High storage cost | 2028 | 67.6 | 2 |
| Price fluctuation | 1626 | 54.2 | 3 |
| High loading & unloading charges | 1584 | 52.8 | 4 |
| High transportation cost | 1212 | 40.4 | 5 |
| Lack of quality | 1068 | 35.6 | 6 |
| Non-availability of rice | 630 | 21 | 7 |

Table 13 showed that the wholesalers faced a range of challenges, with lack of demand being the most significant constraint, scoring the highest (score-75.4). This can be interpreted that the fluctuations in market demand heavily affect wholesalers' ability to move their stock. High loading and unloading charges rank second (score-68.25), indicating that operational costs related to logistics are a major concern. Price volatility (score-59) and high storage and energy costs (score-48.45) also rank high, emphasising the financial risks and operational expenses that wholesalers must manage. Most of the wholesalers were having a rented store for their business. The non-availability of the rice was a least significant constraint, as there was sufficient supply of rice from within and outside states by the rice manufacturers and agents.

Table 14 showed the constraints faced by retailers. For retailers, the lack of demand was also a major constraint, with the highest score (score-75.4), mirroring the concern of wholesalers. This shows the retailers were equally affected by fluctuating market demand, which directly impacts their sales. The retailers opined the reason behind the decrease in demand was due to the shift of consumers from traditional meals to biriyani or Chinese food. The migration of the consumers to abroad also influenced the same. High storage cost ranked

as second (score-67.4). They were struggling with costs of maintaining inventory as they also deal with rented stores and incurring high expenses on it. Price fluctuations and high loading and unloading charges add to their financial pressures. Interestingly, non-availability of rice was ranked as the least significant, indicating the sufficient supply of rice from the rice manufacturers to meet the demand of the consumers.

3.4 Constraints Faced by Consumers

Consumers are the final stakeholders of the branded rice market. The constraints faced by them also need to be identified. Those constraints mainly related to the price, quality, availability and packaging of the product. Here was an attempt to identify the constraints faced by consumers in the market.

Table 15 showed that, high price is the major constraint faced by the consumers in the branded rice market followed by inconsistency in quality. It indicates that the issue of affordability among consumers. They also experienced variations in the quality of the rice and it affected their satisfaction level as well. The limited rice types indicates that the consumers were feel that their choice are restricted to choose the rice types like single boiled, double boiled, fortified and sortex from the stores.

Table 15. Constraints faced by consumers (n=120)

| Constraints of consumers | Score | Rank |
|---|--------------|-------------|
| High price | 76 | 1 |
| Inconsistency in quality | 66 | 2 |
| Limited rice types | 58 | 3 |
| Non availability of the brand | 51 | 4 |
| Low shelf life | 47 | 5 |
| Non-availability of the preferred packet | 40 | 6 |
| Non availability of the preferred variety | 33 | 7 |
| Low quality packaging | 25 | 8 |

4. CONCLUSION

The study identified the major problems faced by the stakeholders of branded rice market. Farmers were facing difficulties in rice production due to high input costs, high labour costs and untimely availability of water. Delay in procurement from SUPPLYCO and adequate facilities for drying and cleaning compel them to sell their produce in the open market. There was a communication gap between institutions and farmers. Lack of adequate subsidy from government, lack of sufficient quantum of credit from financial institutions and lack of source of information about credit among the farmers were the major financial constraints faced by farmers. Lack of transportation facilities, high maintenance cost of machinery and financial difficulties were the major constraints faced by PADDICO. High transportation cost, high international trade barriers and price volatility were the major constraints faced by private manufacturers of branded rice. Heavy documentation & procedures was the major constraint faced by exporters. That hinder the non-exporters from enter into the international market as well. Lack of demand of branded rice was the major constraint faced by resellers. High price was the major constraint faced by the consumers.

5. SUGGESTIONS

The improvements on mechanisation on paddy farming can be done and improve the cultivation practices with the help of Kerala Agricultural University. The co-operative society was mainly suffering from financial constraints and old age machines. The co-operative society can issue a large number of shares with higher price. So, they can replace the scrap machines and develop the financial position of the society. The rice manufacturers of branded rice can enter into a contract farming with the farmers to maintain the consistency in quality of branded rice.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Authours hereby declare that generative AI technologies have been used during writing or editing of this manuscript.

1. ChatGPT

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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