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Article

Marketing Channel Structures and Value-Added Distribution in the Rice Supply Chain: A Case Study from Sumbersari District

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Abstract: This study aimed to identify the marketing channels and the roles of marketing institutions in the rice marketing system in Sumbersari District, Jember Regency. A qualitative descriptive approach was employed, involving in-depth interviews with rice farmers and related market actors. The results revealed three marketing channel patterns: (1) farmers → middlemen → wholesalers → retailers → consumers, (2) farmers → wholesalers → retailers → consumers, and (3) farmers → retailers → consumers. Each marketing institution performed distinct functions, including production, processing, distribution, risk management, financing, and market information. The longest channel involved four institutions, while the shortest consisted of only two. The shortest channel enabled farmers to capture more added value by undertaking processing and packaging activities themselves. However, this channel was less common due to the higher risks and capital requirements. These findings highlight the importance of strengthening farmers' capacity and access to market infrastructure to improve their bargaining position and share of value in the rice marketing system.

Keywords: Rice marketing; Marketing channels; Marketing institutions; Value-added; Sumbersari District

1. Introduction

Rice is one of the staple foods in most countries in the world, including Indonesia. Food consumption statistics data for 2023 (Ministry of Agriculture) show that the average per capita consumption of rice in Indonesia in the period 2019-2023 reached 80.077 kg/capita/year, while the average consumption for food containing rice (rice, glutinous rice, baby porridge, wet cakes, lontong and so on) reached 93.915 kg/capita/year (Secretariate General - Ministry of Agriculture Republic of Indonesia, 2023). In line with these data, Indonesia is in the second place as the country with the highest estimated global rice production after India, reaching 34,600 (1000 metric tons) based on data from the USDA's World Agricultural Outlook Board updated in April 2025 (Childs & Abadam, 2025). This means that rice has strategic value in the national and global food security system. As a staple food commodity, the sustainability of rice production and distribution has an impact on economic stability on a household, national and global scale.

Fresh agricultural products (including rice) are perishable, bulky, seasonal, and generally have fluctuating prices. This has an impact on the marketing system and distribution mechanism of agricultural products until they reach consumers. A marketing chain that is too long can result in inefficient marketing and decreased added value for farmers. For example, a study of the rice supply chain in Cianjur Regency showed that there were too many institutions involved in the rice production supply chain, resulting in price increases at the wholesaler level, not at the farmer level (Saragih et al., 2017). Other research also shows that there is a long-term asymmetry effect for the model on farmer

dried milled grain price and milling dried milled grain price and asymmetry effects on the short term for the model on milling dried milled grain price and wholesale price (Andriyani, 2018). This condition is certainly detrimental to both farmers and consumers. The length of the distribution chain has the potential to widen the price difference (marketing margin) between producers and end consumers. Farmers may not be able to set high selling prices, so that revenue tends to be low, while consumers actually get high prices. On the other hand, a study of rice marketing involving only 2-3 marketing institution chains shows that the results of marketing system tests are included in the efficient category (Yusri et al., 2021).

Low selling price of paddy from farmers accompanied by high production costs can place farmers in a vulnerable position. The weak bargaining position of farmers against middlemen or wholesaler and informal marketing institutions can result in suboptimal farmer income, thus impacting the sustainability of farming businesses. A study examining the effect of grain prices on farmer welfare in North Sumatra shows that the variables of Dry Milled Grain and Dry Harvested Grain simultaneously have a significant effect on the Farmer Exchange Rate in 2020-2021 (Ilman & Syahbudi, 2023). If conditions like this continue for a long time, the sustainability of rice production farming efforts may decline. As a result, consumer needs for rice cannot be met, which means that food security is not realized.

Jember Regency has a fairly large rice harvest area and rice production volume compared to other regencies, reaching 120,188 hectares in 2023 with rice production reaching 154,860 tons throughout January - April 2024 (Statistic Indonesia, 2023). This makes Jember rank fourth as the largest rice producing regency in Indonesia. One of the agricultural sub-areas in Jember Regency is Sumbersari District which is also the central government area of Jember Regency. Data shows that rice production in Sumbersari sub-district is relatively low when compared to other sub-districts in Jember district, which is only 14,462 tons in 2023 with a land area of only 2,802 hectares. (Badan Pusat Statistik Kabupaten Jember, 2024). However, studies related to rice trade in Sumbersari District, Jember Regency have not been carried out in depth. Therefore, further research is needed.

The government has a significant role in creating a fair and efficient rice trade system, namely by determining various technical and non-technical policies that regulate every detail of the trade system. A study showed that farmers who use subsidized rice seeds have higher levels of productivity and income compared to farmers who use non-subsidized rice seeds (Riefqi & Surahman, 2017). This is influenced by the use of more dominant production inputs on organic fertilizers and certified seeds . This illustrates that government policies have a significant impact on the welfare of society fairly, and are in favor of farmers and consumers. However, the formulation of effective and targeted policies must be carried out based on empirical data and analysis of marketing channels that occur in the field. Therefore, this study aims to : 1) analyze the marketing channels of rice/paddy and, 2) identify the types and functions of marketing institutions involved in Sumbersari District, Jember Regency. The results of this study are expected to be the basis for formulating policies to improve the quality of rice trade, especially in Jember Regency.

2. Materials and Methods

This study was conducted in Sumbersari Subdistrict, Jember Regency. The research location was selected purposivelydue to its significance in rice production. Primary data were collected through field surveys. The type of data used in this study is primary data, collected through field surveys. Respondents consisted of rice farmers and other marketing institutions involved in the rice or paddy marketing channels. A total of 30 rice farmers were randomly selected and interviewed using a structured questionnaire that had been prepared in advance. Meanwhile, respondents from marketing institutions were identified using a snowball sampling technique. To determine the structure of the marketing channels, a tracing of the product flow from farmers to final consumers was

carried out. The collected data were then analyzed descriptively to identify the marketing channels as well as the roles and functions of each marketing institution involved.

3. Results and Discussion

3.1. Characteristics of Respondents

The characteristics of the rice farmer respondents in Sumbersari District are presented in Table 1. Three demographic aspects were used to describe their characteristics: age, education level, and farming experience. In terms of age, the majority of respondents (70%) were between 46 and 60 years old. Based on BPS (Central Statistics Agency) classifications, 86.67% of the farmers are within the productive age category, while only 13.13% are classified as non-productive. Despite being considered non-productive by age, these farmers continue cultivating rice due to their physical capability and long-standing experience in farming.

Table 1. Characteristics of Rice Farmer Respondents in Sumbersari District

Demographic criteria	Number of respondents	Percentage
1. Age		
<15 years	0	0.00
15 – 64 years	26	86.67
>64 years	4	13.13
2. Education		
Finished elementary school	7	23.33
Finished junior high school	10	33.33
Finished high school	11	36.67
Graduated from college	2	6.67
3. Experience in farming		
<10 years	7	23.33
10 – 30 years	14	46.67
>30 years	9	30.00

Education level generally influences farmers' knowledge and adoption of agricultural innovations. Farmers with higher education tend to be more open to innovations and have better ability to understand technical explanations for implementing new ideas. The respondents' education levels varied, ranging from elementary school graduates to university graduates. While some farmers only completed elementary school, others had tertiary education. The majority (56.67%) had elementary or junior high education, followed by 36.67% with senior high school, and 6.67% with higher education. Yet, Wulandari et al. (2024) found no significant link between education and rice production.

Farming experience among respondents ranged from less than 10 years to more than 30 years. About 76.67% of the farmers had more than 10 years of experience. Greater farming experience helps farmers cope with challenges more effectively. According to (Kumaladevi & Sunaryanto, 2019), increased farming experience improves productivity, while limited experience may result in suboptimal yields. (Wulandari et al., 2024) confirmed that experience significantly affects rice yields.

3.2. Marketing Channel Patterns

The rice marketing channel refers to the flow of unhusked rice (gabah) or milled rice from farmers to end consumers. Data analysis revealed three distinct marketing channels in Sumbersari District. The longest channel involves four marketing institutions: farmers, middlemen, wholesalers, and retailers. The shortest involves only two. Each marketing

institution performs different roles and functions within the respective channels. For instance, the functions of a wholesaler in Channel 1 may differ from those in Channel 2. The marketing flow in Sumbersari District is illustrated in Figure 1.

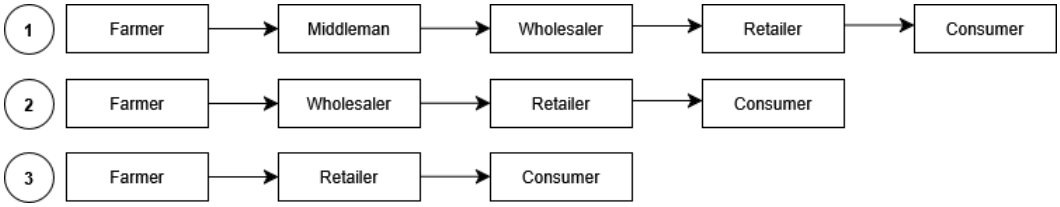

Figure 1. Rice Marketing Channel Patterns in Sumbersari District

Marketing Channel 1

The first marketing channel identified in this study represents the most extended distribution path, involving four key marketing institutions: farmers, middlemen, wholesalers, and retailers. As outlined by Asmarantaka et al. (2017), agricultural marketing systems consist of several functional components, which include exchange, physical, and facilitative functions. Exchange functions encompass buying and selling activities; physical functions relate to handling processes such as processing, packaging, transportation, and storage; while facilitative functions involve risk management, access to finance, and the dissemination of market information (Putri et al., 2022).

In this channel, the marketing flow begins when farmers harvest their paddy and sell it in freshly threshed form to middlemen. The transaction process typically involves price negotiation based on the quality of the product, followed by immediate cash payments. The middlemen, acting as aggregators, then transport and sell the paddy to wholesalers or milling companies, including those located outside the Sumbersari District, such as in Kalisat and Mayang subdistricts. The wholesalers process the paddy into milled rice and subsequently distribute the final product to retailers, who then sell it to end consumers. This multistage chain reflects a conventional model in agricultural trade, where each institution adds functional value but also absorbs a portion of the overall margin.

Each institution within this channel plays a distinct role. Farmers are responsible for cultivating the rice crop and selling the freshly harvested paddy to the next link in the chain. Their main functions include production and the initial sale of raw agricultural output. Middlemen then assume the role of intermediary traders, facilitating the movement of goods by purchasing paddy directly from farmers and reselling it to wholesalers. Beyond simple trading, they also perform critical supporting tasks such as transportation, providing short-term financing to farmers, managing transaction risks, and offering market intelligence that links upstream producers with downstream actors.

Wholesalers occupy a central role in value addition. After acquiring paddy from middlemen, they undertake a series of post-harvest operations, including drying, milling, sorting, and packaging. These stages not only enhance the physical quality of the rice but also increase its marketability and economic value. Sari et al. (2019) in a study conducted in Pesawaran Regency, confirmed that rice milling activities contribute significantly to added value and profitability for rice mill operators. In addition to their processing responsibilities, wholesalers also manage logistics, storage, and risk mitigation, while maintaining awareness of market trends and demand conditions. Lastly, retailers complete the channel by purchasing milled rice from wholesalers and distributing it in smaller quantities to consumers. They handle packaging adjustments, local distribution, and customer transactions, while also assuming some level of financial and inventory risk.

Marketing Channel 2

The second marketing channel offers a more streamlined configuration by eliminating the role of middlemen and involving only three institutions: farmers,

wholesalers, and retailers. This channel reflects a more direct transactional relationship between producers and processors, potentially enhancing efficiency and reducing the marketing margin retained by intermediaries.

In this setup, farmers sell either fresh or dried paddy directly to wholesalers, who typically collect the harvest at the farm site. The transaction is generally facilitated through prior agreements or recurring relationships, with pricing influenced by product condition and volume. Once the paddy is collected, wholesalers proceed with post-harvest handling, including drying, milling, sorting, and packaging. The processed rice is then distributed to retailers and finally reaches consumers through retail outlets.

Each actor in this channel assumes multifaceted responsibilities. Farmers retain their primary role in production and initial marketing. Depending on the season and storage capacity, they may choose to sell either freshly harvested or sun-dried paddy. Wholesalers in this model function as both processors and distributors. Their scope of work includes the entire spectrum of value-added activities: collecting paddy from the field, converting it into consumer-ready rice through milling, and packaging it in branded units. Additionally, they manage the logistical flow, bear operational risks, provide working capital, and monitor market conditions to align supply with demand. Retailers, much like those in the first channel, purchase packaged rice in various sizes and sell it directly to consumers, managing local distribution and bearing responsibility for product display, storage, and customer service.

Compared to the first channel, this arrangement may lead to a more favorable price for farmers by eliminating intermediary margins. However, the relative advantage depends on negotiation power, product quality, and existing networks between farmers and wholesalers.

Marketing Channel 3

The third and final marketing channel identified in this study represents the most simplified and direct route, involving only farmers and retailers. This model significantly differs from the previous two in terms of institutional composition and functional responsibilities. Here, farmers take on a broader set of roles beyond production, effectively internalizing many of the post-harvest and marketing functions typically performed by wholesalers.

In this channel, farmers manage the entire chain from cultivation to processing. After harvesting their paddy, they undertake drying, milling, and packaging—typically in bulk units of 100 kilograms. Once processed, the rice is sold directly to local retailers within the same district. Transactions are conducted face-to-face, with cash payments made upon agreement of price. Retailers then repackage the rice into smaller, consumer-friendly units—commonly ranging from 2.5 kg to 25 kg—based on local demand.

This model offers farmers a greater share of the value chain, as they capture not only the production margin but also the processing and packaging value. However, this approach also requires substantial capital investment in equipment and storage facilities. Farmers must be capable of managing logistical operations and dealing with market risks such as price volatility, spoilage, and delays in payment. As such, adoption of this channel remains limited to farmers with higher resource capacity or access to cooperative infrastructure.

Hidayat (2019), in a study conducted in Indramayu Regency, observed that wholesalers typically secure the highest profit margins in conventional marketing systems due to their financial leverage and control over processing facilities. In contrast, the structure of Channel 3 provides an opportunity for farmers to shift this dynamic by performing value-adding functions themselves. Nonetheless, the challenges associated with this model—such as drying requirements, storage risks, and fluctuating market prices—limit its broader applicability, especially among small-scale or resource-constrained farmers.

4. Conclusions

This study identified three rice marketing channels in Sumbersari District, each with different numbers of marketing institutions and distinct roles. Channel 1, the longest, involved farmers, middlemen, wholesalers, and retailers, with value-added primarily accruing to wholesalers. Channel 2 bypassed middlemen, allowing wholesalers to source directly from farmers. Channel 3, the shortest, enabled farmers to directly supply retailers by conducting their own milling and packaging, thereby obtaining a higher share of the value-added. However, this third channel was utilized by only a few farmers due to the need for additional capital, facilities, and willingness to bear marketing risks.

The findings suggest that empowering farmers through access to post-harvest infrastructure, financing, and training in marketing management is crucial for strengthening their position in the rice value chain. Additionally, improving market information systems and supporting farmer cooperatives could further enhance efficiency and equity in the rice marketing system.

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