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Raw Material Inventory in Determining Continuity Case Study: Rice Milling PB Usaha Sukses Karawang

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ABSTRACT
This study aims to analyze the raw material inventory system, processing process, and marketing strategy of the PB Usaha Sukses rice milling business in Kertajaya Village, Jayakerta District, Karawang Regency. The study was conducted in May 2025 using a descriptive observational approach through direct interviews with the owner and employees. The results showed that PB Usaha Sukses was able to maintain a stable production of 15 tons of unhusked rice per day with a rice yield of 9–10 tons, despite facing dynamic raw material supply. Determining factors for the success of this business include the availability of raw materials between sub-districts with rotating harvests, the use of semi-manual drying methods, and an extensive marketing network extending beyond the region. Karawang, as the "rice granary of West Java," has a good irrigation system, so it did not experience a lean season during the study period. The processing process includes five main stages: drying, milling, sifting, cleaning, and packaging. This business also plays a social role by empowering a local workforce of 22 people. These findings emphasize the importance of efficient inventory management and strengthening the capacity of small-scale rice mills to support regional food security.
Key words: inventory, raw materials, continuity of milling business

INTRODUCTION

Rice is a key staple food in Asia, especially Indonesia, where over 270 million people rely on it as their main carbohydrate source (Ministry of Agriculture, 2023). With an annual per capita consumption of 81.23 kg and national production exceeding 31 million tons, Indonesia ranks among the world's largest rice consumers. Most production comes from smallholder farmers managing less than 0.5 hectares of land. East Java, West Java, and Central Java contribute the most to national rice output (BPS, 2022).

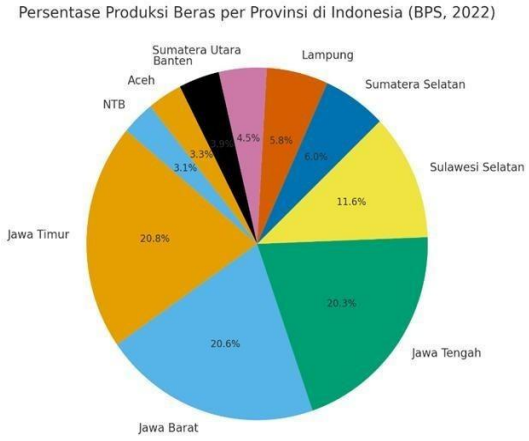

Figure 1
Percentage of Rice Production per Province in Indonesia
Source: BPS, 2021

Efficient rice milling is crucial in maintaining post-harvest quality and ensuring national food security. Milling units determine rice yield, moisture, and quality; without modernization, post-harvest losses remain high. Through the Modern Rice Milling Unit (MRMU) program, the Ministry of Agriculture (2021) promotes efficiency and added value for farmers.

To strengthen food resilience, Presidential Instruction No. 6 of 2025 was issued to regulate domestic rice management and reserves. Minister of Agriculture Amran Sulaiman (Antara, 2025) reported national rice stocks of 3.18 million tons by April 2025. However, only 0.62% of Indonesia's 169,789 rice mills are large-scale (BPS, 2020), creating production disparities.

In West Java, the second-largest rice-producing province, the number of rice mills fell from 33,576 (2012) to 30,941 (2020), a 7.85% decline. The El Niño drought in 2023 further caused around 60% of mills to cease operations due to limited unhusked rice supply (Perpadi, 2024).

Karawang Regency ranks second in West Java's rice production after Indramayu, producing 1,131,977 tons annually. The regency hosts about 40 rice mills, of which 25% are medium-scale and 75% small-scale. Most large mills operate under private companies. One example is PB Usaha Sukses, located in Kertajaya Village, Jayakerta District, operating since 1998 with an average capacity of 15 tons per day. According to Suharjo (2020), optimal inventory management in rice milling (case study in Konawe, Southeast Sulawesi) significantly increases profit margins. Thus, understanding inventory practices in Karawang's rice mills, particularly at PB Usaha Sukses, is vital for improving operational sustainability and supporting national food security.

METHOD

This research is based on data from May 2025 at PB Usaha Sukses, located in Kertajaya Village, Jayakerta District, Karawang Regency. Respondents were business owners and managers, as well as workers directly involved in daily production and operations. Observed indicators included sources of grain supply (procurement), inventory processing stages, and sales (marketing) locations in the milling business were analyzed using descriptive analysis with an observational approach through an interview process**.**

RESULTS AND DISCUSSION

Respondent Profile

Based on research, PB Usaha Sukses, located in Kertajaya Village, was established in 1998 with capital from a partnership. The original manager has since passed away, and is currently managed by Village Secretary Dion. The mill employs 22 people, with PB Usaha Sukses recruiting local workers as part of its social contribution, thereby creating jobs for the surrounding community. It operates daily, from 6:00 a.m. to 4:00 p.m., when raw materials are plentiful.

Procurement of Supplies

Karawang is widely known as an agricultural region with vast rice paddies and high rice productivity, thus earning it the nickname*""rice barn city"*or*"West Java's rice barn".*Even though Karawang is now also a large industrial area, the nickname "*rice barn city*"still attached because of its agrarian historical heritage.(Karawang Light, 2024)

In rice-producing provinces, conditions are inseparable from the term "famine season". This term comes from Javanese, where the word...*famine* means*food shortage period*or*times it is difficult to get basic food*, especially rice. Etymologically, the word*famine*Rice farming has been used since the time of the agrarian kingdoms in Java (around the 18th to 19th centuries), when people's livelihoods were heavily dependent on rice farming. Famines typically occur between planting and harvest, when food supplies run low and prices rise. The main causes are climate change or extreme weather (such as El Niño and drought), delayed planting seasons, and crop failure due to pests, floods, or drought.

In terms of raw material supply, Jayakerta District in Karawang Regency harvests occur every six months, and during the research year there was no dry season. This is because the rice supply comes from upstream, midstream, and downstream, ensuring a continuous flow. This is because each district in Karawang Regency has a different harvest period, based on factors such as good and distributed rice irrigation, which allows for harvests Scheduled. If one sub-district is planting, another sub-district is harvesting. PB Usaha Sukses consistently produces 15 tons of rice per day, yielding around 9-10 tons, to meet the mill's regular customer base. If supply in Karawang Regency is insufficient, the miller seeks to source rice from other regions, including Bekasi, Indramayu, Subang, and, ultimately, Demak.

The continuous production target of processing at least 15 tons of rice every day is to maintain business stability so that it can meet market needs, consumers do not switch to other mills and keep employees able to always work and earn an income every day, because wage payments are given based on the amount produced.

As shown by the interview results, the rice milling business did not experience a decline in production during critical global times, such as the COVID-19 pandemic. Instead, the PB's daily production target increased. This was due to the Large-Scale Social Restrictions (PSBB) policy, which allowed many people to stay at home longer. This resulted in increased consumption, especially of rice, to maintain health. This is in line with information from the Central Statistics Agency (merdeka.com, 2022), which states that rice consumption increased during the pandemic. In 2018, rice consumption of all types, including local, superior quality, and imported rice, reached 1,404 kg per capita per week. This figure then decreased to 1,374 kg per capita per week in 2019. Entering the pandemic, average consumption rose to 1,379 kg per capita per week. Consumption also continued to increase in the second year of the pandemic, reaching 1,451 kg per capita per week in 2021.

Processing Stage

The rice used is not simply purchased from random sources, but is carefully evaluated for quality by field workers. The premium rice is purchased from farmers and then processed. The processing process at the Usaha Sukses Factory involves several main stages:

Table 2 stages of the process of managing PB Usaha Sukses rice milling

No.	Process Stages	Activity Description	Equipment/Methods that Used	Information Addition
1	Sun drying Paddy	Initial process for reduce water content on grain.	1. Traditional method: dried in the sun. 2. Modern methods: using an oven machine semi-manual	Production target: ±15 tons/day.
2	Milling (Skin Separation (Grain)	Peeling the outer skin grain for produce rice cracked skin.	Grinding cement mixer machine.	Early stage produce rice cracked skin.
3	Sifting	Filtering the resulting rice mill based on size and shape.	Sieving machine (sieve) automatic).	Determine uniformity rice size.
4	Cleaning	Remove residue epidermis and small dirt.	Cleaning machine (Ichi).	Producing rice pure and clean.
5	Packaging	Pack the rice accordingly class and quality.	Suitable packaging sacks market standards.	Rice water content should be 14%–15% to be fit for circulation.

Source: PB Usaha Sukses, 2025

Marketing

The type of product produced is based on the results of the milling process, differentiated by the type of sack used, between high-quality (premium) and lower-quality (medium) rice. Marketing is carried out daily to the main market, market distributors, large stalls, and others located in Karawang and other regencies such as Depok, Bogor, Tangerang, and Bekasi. The minimum daily quantity sold is 9-10 and always sold out. Sales activities are carried out through long-established business relationships, these relationships being one of the main strengths supporting business stability even though it has not yet adopted digital technology routinely.

Implications

Modernization of production equipment, such as the use of automatic drying machines and high-tech mills, is necessary to improve rice efficiency and quality. Diversification of grain supplies from surrounding areas such as Bekasi, Subang, and Indramayu must be maintained to anticipate local supply disruptions. Furthermore, digitalization of marketing and inventory management systems is recommended for more effective distribution and stock control in the face of competition from large mills. Local governments also need to strengthen support through training, financing, and machine upgrades for small and medium-sized mills. Further research is recommended to examine the economic and supply chain aspects in more depth to understand the contribution of rice milling to regional food security.

CONCLUSION

PB Usaha Sukses's raw material supply remains stable because the planting and harvesting system in Karawang rotates between sub-districts, and fresh materials are sourced from other regions such as Bekasi, Indramayu, Subang, and Demak, preventing a lean season. Production runs efficiently with a daily capacity of 15 tons of unhusked rice and a yield of 9–10 tons of rice using traditional and semi-modern methods. Marketing utilizes an extensive business network, while local employment contributes to business sustainability. PB Usaha Sukses is an example of a resilient small-to-medium rice mill that is adaptable to changes in supply and economic conditions.

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