

## LITERATURE ANALYSIS OF WAREHOUSE FINANCING IN INDONESIA: MAPPING THE BARRIERS AND SOLUTIONS FOR DEVELOPMENT

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### Abstract

**Background:** Over the last five years, transactions and warehouse receipt utilization have shown a significant decline. In 2023, there was a recorded growth of -30% in warehouse receipt financing, while the growth in warehouse receipt issuance was -25.15%. This condition indicates that Indonesia's warehouse receipt system management is not optimal.

**Purpose:** This study aimed to provide an overview of Indonesia's warehouse receipt system (WRS) by analyzing issues that hindered its development and formulating solutions to tackle those issues.

**Design/methodology/approach:** This research employed a systematic literature review (SLR) approach. Scopus and Sinta indexed journals were used, from which we selected 33 of 378 previous studies. We divided the findings of this study into internal and external problems and solutions.

**Finding/Result:** The findings of this study were divided into internal and external problems and solutions. Internal issues included farmers not meeting the minimum deposit requirements, lack of awareness of the WRS, limited access to WRS, and competitive costs. Meanwhile, external problems included a distant warehouse location from the production site, inadequate facilities, poor management quality, limited availability of warehouses that met standards, and government support. Internal solutions included establishing a cooperative body, increasing production output through smart farming, providing access to financial capital, education, and socialization of WRS, and government subsidies to reduce operational costs. Meanwhile, external solutions consisted of building a warehouse near the production site, repairing facilities, training for warehouse management, coordinating with financial institutions, and accelerating policies on developing WRS in Indonesia.

**Conclusion:** The most frequently discussed problem was that farmers had to bear costs such as rental fees, transportation fees, processing fees, and insurance fees. To strengthen farmer groups, the government needed to provide farmers with bailout funds and capital assistance. Stakeholders could use the study's findings to formulate policy recommendations to aid in the development of WRS. We anticipated that WRS development would benefit Indonesia's economic development, particularly the agricultural sector.

**Originality/value (State of the art):** Based on the researcher's observations, no WRS analysis has been found using the SLR approach. This method was chosen because it is considered appropriate for reviewing literature that has been conducted in the context of WRS.

**Keywords:** literature review, agricultural economics, warehouse receipt system, problem, solution

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## INTRODUCTION

Agriculture is one of the world's most important industries. The state cannot separate itself from the agricultural industry, as agriculture serves as a vital source of food for life (Viana et al. 2022). Indonesia is an agrarian country, and agriculture is critical to the Indonesian economy (Mariyono, 2019; Rijanto, 2021a). Agriculture is a contributing sector to the economy, as evidenced by the agricultural sector's 12,4 percent contribution to Indonesia's GDP in 2023, making it the second-largest contributory sector after the manufacturing industry.

The agricultural sector is critical to the economy's success. However, many stakeholders have paid less attention to it (Lakitan, 2019). Farmers face a number of challenges, the most serious of which is a lack of access to financial institutions (Endro et al. 2019; Onumah, 2002; Shuaibu & Nchake, 2021). Because the majority of farmers are unbankable (Sandhu, 2020), financial institutions have difficulty assessing collateral when they require capital. Moreover, rural farmers fail to maintain financial records necessary for business evaluation. As a result, they can only obtain financing at exorbitant interest rates, limiting agricultural productivity (Ngadi et al. 2023). Due to their high capital costs, they frequently default on repaying the financing (Li and Sun, 2022). Another factor to consider is the price decline, particularly during the harvest season. Agricultural products are in high supply during the harvest season, causing prices to fall so low that farmers frequently cannot close their cost of production (Sasmi et al. 2022). Farmers' business management is traditional in the sense that they sell their products immediately after harvesting. Another factor to consider is the price decline, particularly during the harvest season. Agricultural products are in high supply during the harvest season, causing prices to fall so low that farmers frequently cannot close their cost of production (Sasmi et al. 2022). Farmers' business management is traditional in the sense that they sell their products immediately after harvesting.

Problems in the agricultural sector must be resolved since the agricultural sector is one of the pillars of Indonesia's economy and its impact will affect the country's economy, which depends significantly on

agriculture. Robert (2021) suggests transforming the agricultural sector as a necessary step. The government continues to strive to overcome these issues and encourage increased economic growth by optimizing logistics facilities, one of which is the use of the Warehouse Receipt System (WRS) for agricultural products (Prananingtyas and Zulaekhah, 2021). The warehouse receipt system may be a solution to the problem of limited financial access and price declines during the post-harvest period.

Law No. 9 of 2006 marked the beginning of Indonesia's WRS implementation. During its development, the implementation of WRS was not as good as expected. In 2023, warehouse receipt performance will decline. WRS issuance only reached IDR 830 billion, whereas in 2022 it reached IDR 125.5 billion. In other words, WRS issuance achievements in 2023 decreased by 30%. WRS financing in 2023 decreased by 25.5% compared to 2022 (Figure 1). The decline in WRS transaction achievements indicates that there are problems both internally and externally with WRS management in Indonesia.

Several studies on the topic of warehouse receipt systems have been conducted, such as (Gunawan et al. 2019; Mahyuddin et al. 2021) on the factors that influence farmers' decision to use the warehouse receipt system in Indonesia. Onumah (2002) conducted research on the role of the warehouse receipt system in improving commodity market and community welfare in Africa, and Giovannucci et al. (2000) also explains and describes the important role of the warehouse receipt system during a crisis. Prananingtyas & Zulaekhah (2021) studied the impact of using logistics, supply chain, and competitive management when using agricultural product warehouse financing with a warehouse receipt system in Indonesia. conducted research on the role of the warehouse receipt system in improving commodity market and community welfare in Africa. Giovannucci, Varangis and D. Larson (2000) also explains and describes the important role of the warehouse receipt system during a crisis. Prananingtyas and Zulaekhah (2021) studied the impact of using logistics, supply chain, and competitive management when using agricultural product warehouse financing with a warehouse receipt system in Indonesia.

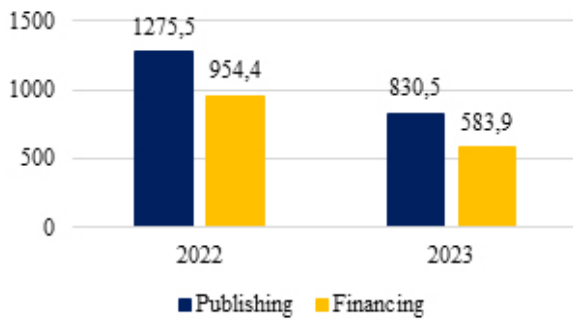


Figure 1. WRS Issuance and Financing Transactions for 2022 – 2023 (BAPPEBTI, 2023)

This study will analyze the difficulties and solutions of creating a warehouse receipt system in Indonesia using a comprehensive literature review. Issue mapping functions help understand issue component correlations. Problem mapping lets people rank problem components by urgency or importance. Policymakers can more easily create effective remedies by defining the problem. We need targeted strategies to enhance the WRS and reduce food price variations in Indonesia.

The SLR method to WRS is rarely discussed. The authors believe this is the first WRS literature review to be structured. SLR finds major research discoveries and unanswered questions by reviewing large literary sources, providing a methodical exposition of the discussion's outcomes. Future research can reference this study's findings on Indonesian warehouse receipt systems.

## METHODS

This study applied the Systematic Literature Review (SLR) method to map the condition of developing the warehouse receipt system in Indonesia. This method was chosen because it was considered appropriate for reviewing literature conducted in the context of warehouse receipt systems. This method helped researchers to find the most relevant articles more easily. SLR provided clear benefits compared to individual literature research (Bartolini, Bottani and Grosse, 2019; Aravindaraj and Rajan, 2022; Ulfah et al. 2023). Firstly, the SLR methodology guaranteed that the review was comprehensive and meticulous by conducting methodical searches across many databases, thus encompassing a broad spectrum of pertinent literature (Bartolini, Bottani and Grosse, 2019; Ulfah et al. 2023). SLR enabled the integration of knowledge by examining results from many studies,

allowing for a comprehensive comprehension of the landscape of research (Bartolini, Bottani and Grosse, 2019; Aravindaraj and Rajan, 2022). The SLR offered a thorough and all-encompassing examination of the green warehousing industry, condensing and integrating the existing knowledge on the subject.

Furthermore, Ulfah et al. (2023) explained that SLR could effectively identify significant research findings and unsolved inquiries by examining extensive literary sources. SLR often employed rigorous criteria for selecting studies, which guaranteed the inclusion of only high-quality and relevant literature. This approach enhanced the visibility and validity of observations. This research started by searching major research databases to collect relevant articles and then identifying related articles that focused on the topic of warehouse receipt systems (Abed, 2022). The literature review argued that it played an essential role in developing knowledge to suggest future policies because it could analyze gaps and map the situation based on previously researched studies. This method supported researchers in mapping relevant topics of discussion easily. This method collected existing literature to be analyzed and used to answer the research objectives.

This study employed a thorough methodology to analyze the existing condition of the warehouse receipt system. It was divided into two primary aspects: problem and solution. This division served as a strategic framework for examining the complex challenges and accompanying solutions inherent in the system. Figure 2 presented a comprehensive analysis of the problem aspect of the study, which was separated into two main subcategories: internal and external. The articles were classified into four categories: problem internal (PI), problem external (PE), solution internal (SI), and solution external (SE). The internal part focused on the intricacies experienced by farmers, highlighting the obstacles they faced in their day-to-day operations. This encompassed several factors, such as logistics, infrastructure, market dynamics, and regulatory restraints, among other considerations.

The study sought to reveal the intricate obstacles that impeded the efficiency of the warehouse receipt system as perceived by farmers by thoroughly comprehending the internal dynamics involved. However, the external component expanded the investigation beyond farmers' perspectives, including broader environmental elements and institutional influences that affected

the warehouse receipt system. These elements, which encompassed macroeconomic conditions, policy frameworks, technical breakthroughs, and socio-cultural considerations, jointly influenced the environment in which the warehouse receipt system functioned. The study sought to examine these external aspects to uncover the influences that either supported or hindered the efficient operation of the warehouse receipt system. This provided valuable insights into possible areas for enhancement.

Based on the explanation, researchers have several research hypotheses, namely:

- H1: There are internal problems faced by Indonesian farmers in utilizing WRS
- H2: There are external problems faced by Indonesian farmers in utilizing WRS
- H3: There is an internal solution for farmers to utilize WRS
- H4: There are external solutions for farmers to utilize WRS

During the systematic literature review (SLR) stage, the first step entailed conducting a comprehensive and structured search for pertinent literature. The author employed academic databases and other sources, utilizing relevant keywords that corresponded to the research topic. The author utilized Scopus and Sinta Journal for the purpose of literature retrieval. Subsequently, the author evaluated the identified publications based on predetermined criteria to determine whether they should be included or excluded. Articles that met the aforementioned criteria were subject to a qualitative assessment to determine their reliability and validity.

Figure 3 illustrated a SLR that analyzed the content of the warehouse receipt system. A SLR was a thorough and methodical process for evaluating current literature. It employed an organized and transparent strategy to identify, select, and analyze relevant studies. This study used secondary data from previous research that discussed the warehouse receipt system in Indonesia. The literature was sourced from journals indexed by Scopus and Sinta. The research literature focused on the evolution of the warehouse receipt system in Indonesia. The period for writing this research paper spanned from 2006 to 2024 concerning the Indonesian Warehouse Receipt System Law, namely Law No. 9 of 2006. This study specifically selected 33 articles focusing on problem identification and solution strategies in the field of Warehouse Receipt System (WRS) research.

## RESULTS

Table 1 categorizes the 33 collected publications on WRS challenges and solutions into internal and external classifications. In 2006, 2008, 2009, 2011, 2012, 2014, and 2022 there were no problems or solutions linked to WRS. The analysis reveals that 2019 had the highest amount of research focused on addressing challenges and finding solutions connected to the WRS. This finding indicates a significant academic interest in WRS in that particular year. Furthermore, the observation suggests a pattern in which a higher number of years of research is associated with a higher level of intricacy and refinement in the discourse on WRS problems and solutions.

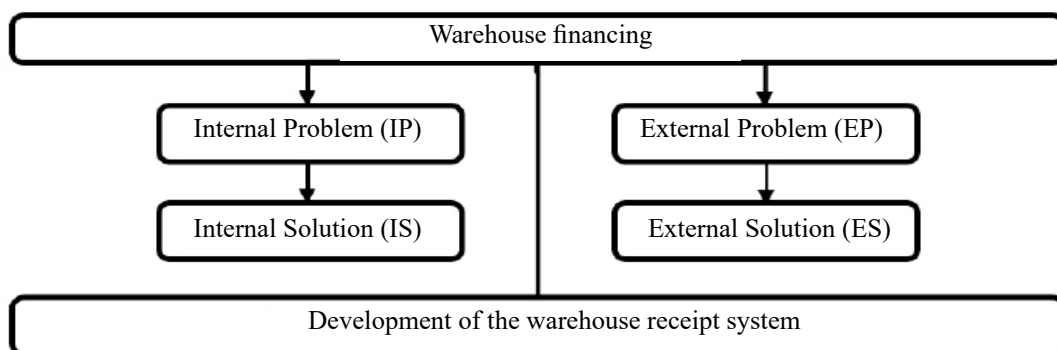


Figure 2. Research framework

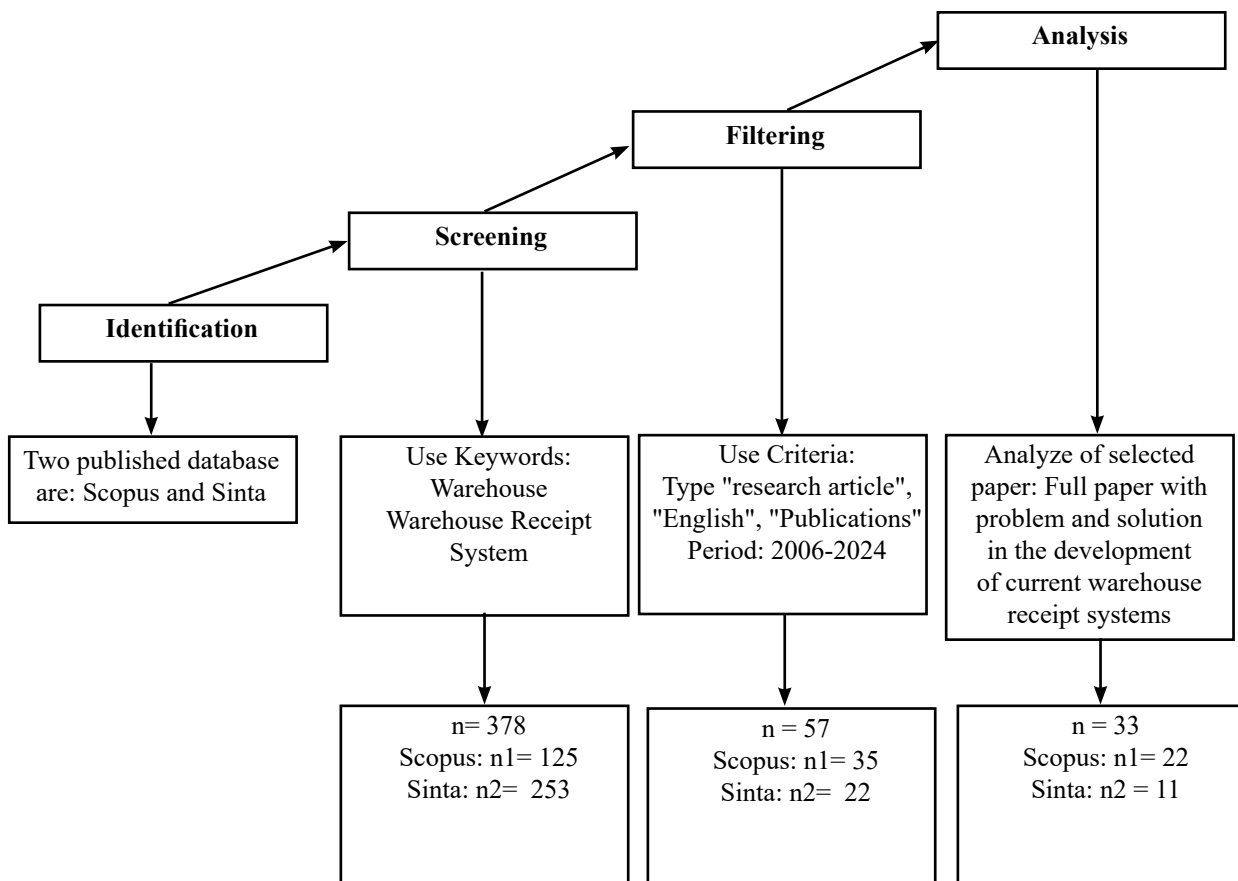


Figure 3. Analysis content of warehouse receipt system

Table 1. The number of filtering and selected article

Year	Analyze of Selected Paper			
	Problem Internal (PI)	Problem External (PE)	Solution Internal (SI)	Solution External (SE)
2006	-	-	-	-
2007	1	2	-	-
2008	-	-	-	-
2009	-	-	-	-
2010	2	2	-	3
2011	-	-	-	-
2012	-	-	-	-
2013	1	1	1	1
2014	-	-	-	-
2015	1	1	1	1
2016	1	1	1	1
2017	2	2	2	2
2018	1	-	-	-
2019	9	9	4	3
2020	4	4	4	2
2021	7	1	-	-
2022	-	-	-	-
2023	2	3	3	3
2024	1	1	1	-
Total	33	27	17	16

The development of a wide range of complex difficulties related to WRS over time supports this trend. These issues are likely caused by a variety of factors, including changing market dynamics, legislative framework changes, technological advancements, and farming method adjustments. Many new solutions specifically designed to tackle these obstacles emerge as WRS problems become more complex. This indicates a positive trend in the field's advancement, as researchers and practitioners are actively involved in developing innovative methods and tactics to address the WRS's changing difficulties.

The analysis highlights the ever-changing character of WRS research, where the interaction between issues and solutions evolves with time, leading the system to become more sophisticated and advanced. This comprehensive understanding of the developing terrain of WRS can enlighten policymakers, stakeholders, and researchers in formulating efficient tactics to improve the system's resilience and effectiveness in promoting agricultural commerce and sustaining farmers' lives.

### **Problems with the Warehouse Receipt System in Indonesia**

This study identified several issues that impede the development of the Warehouse Receipt System, which were classified as internal and external issues (Table 2). Prior research has examined five internal challenges encountered by farmers. This aligns with the first hypothesis of this study. Primary among the internal challenges faced by farmers is the necessity to shoulder various expenses, including leasing fees, transportation fees, processing fees, and insurance payments (P.I.4). These extra costs put farmers under additional strain, making them uninterested in depositing in the warehouse receipt system. Farmers prefer to sell directly because they will receive a direct turnover, even if it is low, rather than store it in a warehouse receipt system and bear the associated extra costs (Puspitaningrum and Gayatri, 2019). 15 previous studies have identified cost constraints as an internal problem farmers face (Giovannucci, Varangis and Larson, 2000; Ashari, 2010; Listiani and Haryotejo, 2013; Anugrah, Erwidodo and Suryani, 2016; Suryani and Anugerah, 2016; Fachruddin and Rahayu, 2017; Gunawan, John K.M. Kuwornu, et al. 2019; Indhumathi, Priya and Somasundaram, 2019; Atmaja and Saputro, 2020; Fadhiela ND and Apriyani,

2020; Hidayah, 2021; Mahyuddin, Armita, Darma, Summase, et al. 2021; Anugrah et al. 2023; Sharon and Kumar, 2023; Pillai and Deshpande, 2024). The large number of previous studies that discuss cost constraints as a barrier to farmers utilizing WRS indicate the need for urgent solutions.

Second, the internal issue is the limited access of small farmers to information and financial institutions. There are 9 articles that recognize that limited information and financial access prevent farmers from utilizing WRS (Giovannucci, Varangis and Larson, 2000; Ashari, 2010; Listiani and Haryotejo, 2013; Anugrah, Erwidodo and Suryani, 2016; Suryani and Anugerah, 2016; Gunawan, John K.M. Kuwornu, et al. 2019; Indhumathi, Priya and Somasundaram, 2019; Atmaja and Saputro, 2020; Fadhiela ND and Apriyani, 2020; Hidayah, 2021; Anugrah et al. 2023; Sharon and Kumar, 2023; Pillai and Deshpande, 2024). Farmers have limited access to credit because they are unbankable and have no collateral. Furthermore, because many farmers have not fully embraced today's advanced technology, access to information is limited.

Third, farmers have little knowledge and awareness about the Warehouse Receipt System and its management (P.I.3). Of the 33 pieces of literature used, 8 of them discussed P.I.3 (Giovannucci, Varangis and Larson, 2000; Listiani and Haryotejo, 2013; Anugrah, Erwidodo and Suryani, 2016; Suryani and Anugerah, 2016; Fachruddin and Rahayu, 2017; Indhumathi, Priya and Somasundaram, 2019; Fadhiela ND and Apriyani, 2020; Anugrah et al. 2023; Sharon and Kumar, 2023). Many farmers do not know the purpose and benefits of using the warehouse receipt system. Therefore, non-farmer traders primarily execute the warehouse receipt system. Farmers are more likely to sell directly to middlemen instead of storing their goods in a warehouse due to their lack of in-depth knowledge of the warehouse receipt system.

Fourth, their inability to meet the warehouse receipt system's minimum deposit requirement (Listiani and Haryotejo, 2013; Edi et al. 2019; Fadhiela ND and Apriyani, 2020; Anugrah et al. 2023). Due to the small areas of land, many rural farmers can only produce a small amount of agricultural product. They are frequently rejected because they do not meet the minimum deposit requirement.

Table 2. List of WRS Internal and External Problems

Problem Internal (PI)	Problem External (PE)
Farmers inability to meet the warehouse receipt system's minimum deposit requirement (P.I.1)	Limited number of warehouses equipped with WRS and their remote location (P.E.1)
Many rural farmers can only produce a small amount of agricultural product standard (P.I.2)	The number of facilities is still insufficient (P.E.2)
Little knowledge and awareness about the Warehouse Receipt System and its management (P.I.3)	The low quality of the warehouse receipt system and logistics management (P.E.3)
Farmers must bear costs such as rental fees, transportation fees, processing fees, and insurance fees (P.I.4)	Lack of government support and synergy among stakeholders (P.E.4)
Limited access of small farmers to information and financial institutions (P.I.5)	WRS is only intended for certain commodities (P.E.5)
	Lack of qualified human resources to manage WRS (P.E.6)
	The Implementation of Rice Trading Using Tebasan System (P.E.7)
	Existing regulations are not enough to solve the WRS problem (P.E.8)
	Economic fluctuations (P.E.9)

Last, many farmers are unable to meet the minimum agricultural product standards (Anugrah, Erwidodo and Suryani, 2016; Atmaja and Saputro, 2020; Fadhiela ND and Apriyani, 2020; Anugrah et al. 2023)(Anugrah, Erwidodo and Suryani, 2016; Atmaja and Saputro, 2020; Fadhiela ND and Apriyani, 2020; Anugrah et al. 2023). Farmers are having difficulty producing agricultural products that meet national standards. Higher harvest quality required higher production costs because farmers must purchase higher quality seeds with more intensive care (Tambarta, 2017; Fadhiela, Rachmina and Winandi, 2018). Further, pest attacks and plant diseases are also a source of concern for farmers, as they have the potential to reduce crop yield quality and even cause crop failure.

Previous research discussed at least 9 external problems faced by farmers. This is in accordance with H2 of this research. Table 6 shows examples of external issues that farmers face. To begin, due to the limited number of warehouses equipped with WRS and their remote location, farmers must pay a higher transportation cost if they want to use the warehouse receipt system. Because not every farmer lives near a warehouse with a warehouse receipt system, transportation costs are rising. Farmers in outlying areas may want to reconsider renting a warehouse due to higher transportation costs, as they will incur additional costs to store their harvest. 8 of 33 articles discuss P.E.1 issues (Listiani and Haryotejo, 2013; Fachruddin and Rahayu, 2017a; Endro, Kuwornu, et al. 2019; Indhumathi, Priya and Somasundaram, 2019; Hidayah, 2021; Mahyuddin,

Armita, Darma, Summase, et al. 2021; Sharon and Kumar, 2023).

Second, the number of facilities is still insufficient. 8 of 33 articles discuss P.E.2 issues (Listiani and Haryotejo, 2013; Anugrah, Erwidodo and Suryani, 2016; Suryani and Anugerah, 2016; Fachruddin and Rahayu, 2017; Gunawan, John K.M. Kuwornu, et al. 2019; Indhumathi, Priya and Somasundaram, 2019; Fadhiela and Apriyani, 2020; Anugrah et al. 2023). Some warehouses are still lacking in basic facilities such as dryers, blowers, and sieving machines. The absence of these facilities resulted in higher processing costs.

Third, the low quality of the warehouse receipt system and logistics management. 6 of 33 articles discuss P.E.3 issues (Giovannucci, Varangis and Larson, 2000; Listiani and Haryotejo, 2013; Suryani and Anugerah, 2016; Gunawan, John K.M. Kuwornu, et al. 2019; Hidayah, 2021; Anugrah et al. 2023). Logistics management encompasses the ability of human resources to conduct operation management within the warehouse and ensure every legal aspect of the warehouse receipt system (Atmaja & Saputro, 2020). Employees' ability to manage the warehouse receipt system is limited, thus improving human resource's ability is needed (Atmaja & Saputro, 2020). Employees' ability to manage the warehouse receipt system is limited, thus improving human resource's ability is needed.

Fourth, there is a lack of government support and synergy among stakeholders. 8 of 33 articles discuss P.E.4 issues (Giovannucci, Varangis and Larson, 2000; Listiani and Haryotejo, 2013; Anugrah, Erwidodo and Suryani, 2016; Endro Gunawan, J. K. Kuwornu, et al. 2019; Atmaja and Saputro, 2020a; Hidayah, 2021). Government assistance is limited to the socialization stage, which has yet to be fully implemented (Irham et al. 2020). Farmers continue to face difficulties with additional costs because of a lack of coordination among members of the Warehouse Receipt System, which has resulted in a lengthy bureaucracy. The four solutions above are the external problems most discussed in previous research. The predominance of these four external problems suggests that P.E.1 to P.E.4 are critical external problems that require immediate resolution. Irham et al. 2020). Farmers continue to face difficulties with additional costs because of a lack of coordination among members of the Warehouse Receipt System, which has resulted in a lengthy bureaucracy. The four solutions above are the external problems most discussed in previous research. The predominance of these four external problems suggests that P.E.1 to P.E.4 are critical external problems that require immediate resolution.

### **Solutions to the Development of Warehouse Receipt System**

There are 5 internal solutions suggested by previous research. This is in accordance with H3 of this study. First, to resolve the priority problem, namely P.1.3, it is recommended to provide bailout funds, capital assistance to strengthened farmer groups (Gunawan, J. K. Kuwornu, et al. 2019; Atmaja and Saputro, 2020; Fadhiela ND and Apriyani, 2020; Anugrah et al. 2023). Capital strengthening can help farmer groups buy equipment that will allow them to produce more efficiently and effectively. They can also purchase the necessary equipment to support the delayed sale and avoid selling directly to middlemen. Farmers prefer to sell directly because they need money for extra capital and living expenses. As a result, bailouts and financing assistance are needed to assist farmers.

Second, there is a need for warehouse receipt system education and socialization (Listiani and Haryotejo, 2013; Anugrah, Erwidodo and Suryani, 2016; Suryani and Anugerah, 2016; Fachruddin and Rahayu, 2017; Edi et al. 2019; Gunawan, John K.M. Kuwornu, et al. 2019; Atmaja and Saputro, 2020; Fadhiela ND and

Apriyani, 2020; Susiana et al. 2021; Anugrah et al. 2023). Farmers can be given an in-depth explanation of the warehouse receipt system through socialization. Not only socialization, but also education on how to use the warehouse receipt system, and the benefits of using the warehouse receipt system. A success story from one of the farmers is required so that farmers understand these as this success story becomes a motivation for others. Of the 33 articles, 10 of them emphasized the importance of education to increase farmer participation in using WRS.

Third, market and information networks must be built immediately (Fachruddin and Rahayu, 2017; Edi et al. 2019; Atmaja and Saputro, 2020; Rijanto, 2021b). This step is useful to make it easier for farmers to keep up with market developments, particularly price developments, to determine when to sell or store in warehouse receipts when harvesting occurs.

Then, the other solution is forming a cooperative so that farmers can deposit collectively and meet the WRS's minimum deposit requirement (Listiani and Haryotejo, 2013; Anugrah et al. 2023; Pillai and Deshpande, 2024). Many Indonesian farmers are still unable to meet the warehouse receipt system's minimum deposit. As a result, a cooperative must be formed to collect the harvest from each farmer to meet the warehouse receipt system's minimum deposit. Lastly, the agricultural output should be increased (Fachruddin & Rahayu, 2017). To meet production shortages, this increase can be achieved through both agricultural intensification and extensification. This solution is also used to address the issue of farmers who have not met the minimum deposit requirement of the warehouse receipt system.

There are 5 external solutions suggested by previous research. This is in accordance with H3 of this study. First, warehouses must be built near the production site to reduce transportation costs borne by farmers (Suryani and Anugerah, 2016; Hidayah, 2021; Anugrah et al. 2023; Sharon and Kumar, 2023). The building of a warehouse close to the production site will encourage farmers to use the WRS. Second, the basic facilities for every WRS should be upgraded (Suryani and Anugerah, 2016; Hidayah, 2021; Sharon and Kumar, 2023). These facilities include facilities to help preserve the agricultural product and develop commodity auction markets. Suitable facilities will increase the efficiency and effectiveness of production. Furthermore, the facility for developing a commodity auction market



will help farmers sell their commodities. Anugrah et al. (2015). Suitable facilities will increase the efficiency and effectiveness of production. Furthermore, the facility for developing a commodity auction market will help farmers sell their commodities.

Third, the government must provide training and assistance to WRS management (Ashari, 2010; Listiani and Haryotejo, 2013; Fachruddin and Rahayu, 2017a; Edi et al. 2019; Endro Gunawan, J. K. Kuwornu, et al. 2019; Fadhiela ND and Apriyani, 2020; Sharon and Kumar, 2023). This is done so that management can be more knowledgeable and professional when dealing with problems. Fourth, the government must work with local financial institutions to ensure that warehouse receipts can be used as collateral and that farmers can obtain financing (Ashari, 2010; Anugrah, Erwidodo and Suryani, 2016; Suryani and Anugerah, 2016; Fachruddin and Rahayu, 2017a; Endro Gunawan, John K.M. Kuwornu, et al. 2019; Fadhiela ND and Apriyani, 2020; Hidayah, 2021; Shuaibu and Nchake, 2021b; Susiana et al. 2021; Anugrah et al. 2023; Sharon and Kumar, 2023). Fifth, the government must develop policies to accelerate the implementation of the WRS by creating synergy between stakeholders, strengthening the role of all business actors, and developing superior commodities for each region (Anugrah et al. 2016; Ashari, 2010; Gunawan et al. 2019a; Irham et al. 2020; Poon & Weersink, 2011; Shuaibu & Nchake, 2021; Susiana et al. 2021).

### Managerial Implication

The study's findings are expected to have several implications. The first is that this study will serve as a reference for future research. Further investigation may reveal a previously unknown gap in Indonesia's warehouse receipt system development. Second, as a recommendation to policymakers in Indonesia on the development of the warehouse receipt system.

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

This study aims to examine the development of the warehouse receipt system in Indonesia by employing the SLR method to discuss problems and solutions proposed by previous studies. During the development of the warehouse receipt system, internal and external

issues were discovered. First and foremost, the problem is subject to numerous costs. Other problems are farmers fail to meet minimum deposit requirements, continue to fall short of standards, and unaware of the warehouse receipt system management. Meanwhile, external issues include the warehouse's remote location from the farmers' sites, insufficient facilities, poor management, a lack of standard-compliant warehouses, and inadequate government support.

In order to solve priority problems, it is necessary for the government to allocate subsidies to reduce additional costs. Internal solutions to these problems include forming a cooperative body, increasing output through agricultural intensification and extensification, fortifying capital, providing warehouse receipt system education and socialization, and constructing information and market networks. Meanwhile, external solutions include constructing a warehouse near the production site, repairing facilities, providing warehouse management training and assistance, coordinating with financial institutions, and hastening the development of policies for an Indonesian warehouse receipt system.

### Recommendation

There is still room for advancement on this topic, which can be pursued in greater depth. It is recommended to conduct research using bibliometric methods to understand research development trends related to WRS.

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