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POLICY BRIEF

January 2023

Policy Brief No. 17

Improving Farmers' Participation in the Warehouse Receipt System

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Overview of the Warehouse Receipt System

The warehouse receipt system (WRS) (*Sistem Resi Gudang* or SRG) is a system that allows farmers to store their harvest at a receipt-issuing warehouse, receive a receipt as a proof of ownership for the commodities stored, and release the harvest to the market for a higher price. The WRS system is intended as a tool to help increase access to financing for farmers, farmer groups, and cooperatives. Receipts for stored harvests can be presented as collateral to banks or other financial institutions. In this way, the WRS allows farmers to delay sales to obtain a better price while providing access to financing through the receipt.

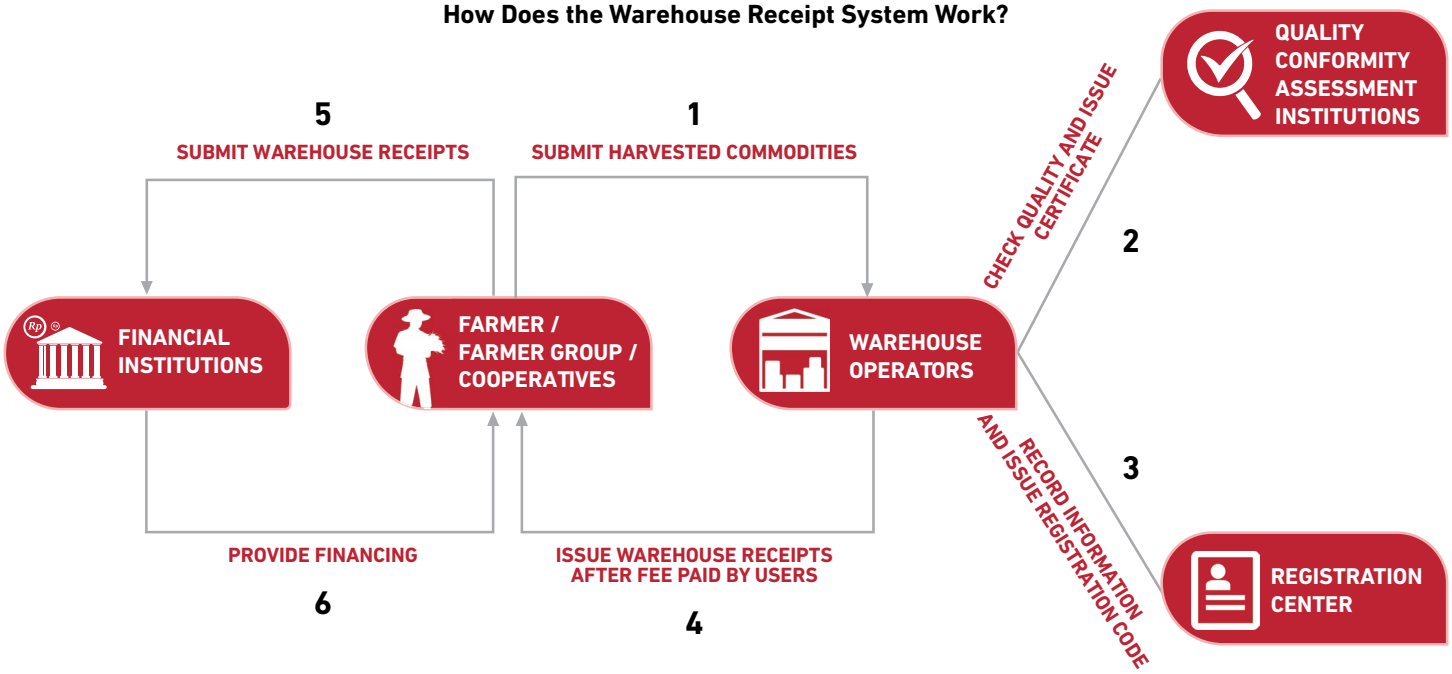
Despite offering farmers access to financing and an increase in income, sixteen years after its establishment in Indonesia, WRS is still not used widely by farmers. According to Statistics Indonesia's data from 2017, in Cianjur and Subang, West Java Province there were only 800 rice farmers that used WRS out of 324,558 farmers (Gunawan, 2019).

WRS in Indonesia is regulated under Law No. 9/2006 on Warehouse Receipt System, which was amended by Law No. 9/2011. The governing legislation outlines the division of tasks in the implementation and operation of WRS. The Commodity Futures Trading Regulatory Agency (*Badan Pengawas Perdagangan Berjangka Komoditi* or Bappebti) is mandated under the Ministry of Trade (MOT) to regulate, supervise, and develop WRS implementation and activities.

The law specifies the roles of national and provincial governments in WRS. The national government is responsible for designing national policies and harmonizing intra-sectoral cooperation to promote WRS implementation. Meanwhile, local (provincial and district) governments are responsible for creating local policies to implement WRS. This process is decentralized, giving local governments some independence in setting policies related to WRS operations. For example, Bolaang Mongondow District in North Sulawesi has a regulation for WRS implementation that specifies the role of district-level government. This includes determining priority commodities, providing subsidies, selecting cooperatives as candidates for managing local government-owned warehouses and facilitating the commodity auction market. According to a report by Bank Indonesia (2017), some local governments also provide a monthly budget for warehouse operations, such as in the Kuningan and South Konawe Districts.

Figure 1 outlines the WRS processes from a user's perspective. First, a user (a farmer, a farmer group, or a cooperative) takes their commodities to a receipt-issuing warehouse. Warehouses are run by warehouse operators, which can be private firms, local government-owned enterprises, or cooperatives that have been approved by Bappebti to manage the warehouse. According to Law No. 9/2011, warehouse operators conduct warehousing business; perform the storage, maintenance, and supervision of goods; and issue warehouse receipts. To get Bappebti's approval, companies and cooperatives need to apply and comply with the requirements set in the Bappebti Regulation No.8 /2018 on Approval as a Warehouse in the WRS, which includes minimum capital requirements.

Figure 1.
How Does the Warehouse Receipt System Work?



Source: Bappebti, 2017

Second, quality conformity assessment agencies (*Lembaga Penilaian Kesesuaian* or LPK) check the quality of the submitted commodities and issue certificates attesting the quality, amount, and type of the commodity. Forty six organizations are approved to perform quality testing and certification for goods in WRS (Bappebti 2022). Although state-owned bodies dominate the list, there are also private businesses, cooperatives, and a public university-owned laboratory[1].

Third, the registration center records the information related to the commodities and their owners and issues a registration code to the warehouse operators. There is only one registration center approved by Bappebti, the state-owned company, PT. Kliring Berjangka.

Fourth, before receipts can be issued, users pay storing fees, which vary between warehouses. Warehouse operators will determine fees for services including storing, managing, quality testing, and insurance (Bappebti, 2018). For example, in South Konawe, Southeast Sulawesi, the storing fee for cocoa was set at IDR 200 per kilogram and the quality testing fee reached IDR 826,000 per receipt[2] (Bank of Indonesia, 2017).

Receipts can be presented to a financial institution (a bank or a non-banking institution) as collateral to access financing. As per Ministry of Finance Regulation No.187/2021 on Subsidy Schemes for Warehouse Receipt, users are eligible to receive loans of no more than 70% of the receipt value with a maximum of IDR 500 million per user per year.

Based on MOT Regulation No. 33/2020 on Goods and Requirements for Goods that Can Be Stored in the Warehouse Receipt System, participating warehouses can store 20 types of commodities, including soybeans, rice, coffee, cocoa, rubber, fish, and frozen chicken. Individual warehouses usually accept the storage of only a few commodities, depending on the available facilities. Stored commodities should satisfy requirements related to minimum quality, weight, and have a shelf life of at least three months[3]. Bappebti (2019) specifies that the quality requirements for stored commodities follow the Indonesian National Standard (SNI). The minimum water level requirements for paddy, for example, is set at 14%, following the SNI (Bank Indonesia, 2017). Weight requirements—the amount of produce a user must provide to qualify as a client of the warehouse—vary from one warehouse to another.

In 2021, there were 623 receipts issued, with a total transaction value of more than IDR 500 billion, an increase 170 percent compared to 2020 (Interview 1). There are 163 government and private warehouses spread in 26 provinces, but in 2022 only 78 warehouses in 19 provinces are active. Bappebti aims to increase the number of active warehouses by 35% in 2024 (Interview 1).

Bappebti has developed a WRS development strategy that includes a focus on building WRS connectivity with the market by optimizing technology to sell WRS commodities and mapping potential warehouses (Bappebti, 2020). Bappebti mentioned that the stored commodities could potentially be sold through online marketplaces, but there is no established cooperation with marketplace companies (Interview 1). Some private companies have approached Bappebti to cooperate in improving WRS connectivity (Interview 1). Despite recognizing that improving WRS connectivity is important for WRS development, there is no clear national or provincial roadmap on WRS potential and implementation. Bappebti's role seems to have been passive when it comes to engaging with the private sector and improving WRS connectivity.

[1] Organizations approved by Bappebti to do quality tests and certifications include state-owned enterprises such as Sucofindo, Bulog's Survey and Pest Eradication Business Unit, and Centers for Quality Testing and Certification (*Balai Pengujian dan Sertifikasi Mutu Barang*) in various cities. There are also some private businesses such as PT Beckjorindo, PT Ketiara, PT Pan Asia Superintendence, as well as cooperatives and a laboratory under the University of Mataram.

[2] In this case, IDR 826,000 is a flat rate fee which includes quality testing, insurance, and maintenance. The amount of cocoa stored is 3,140 kg, so total storage and quality testing fees reached IDR 1,454,000, or 1.85% of the predicted financing of IDR 75,800,000 (70% of the receipt value).

[3] MOT Regulation No. 33/2020 stipulates that the commodities need to have a minimum shelf life of three months.

According to MOT Regulation No. 42/2020 on the Operational Instructions for the Operators of Special Allocation Funds for Physical Development Fiscal Year 2020 for Warehouse Development Activities and Provision of Warehouse Supporting Facilities, the construction of government-owned warehouses is funded by the special allocation funds for physical development (*dana alokasi khusus fisik*) from the national budget. Completed warehouses are transferred to and managed by the local government.

Local commitment to warehouse development has been subject to criticism. A number of reports find weak commitment by local governments to WRS development, as indicated by the relatively low provincial budget allocated for warehouse maintenance and the fact that a change of leadership often affects warehouse development plans (DPR RI, 2021; Interview 1).

Poor uptake of WRS by farmers despite the maturity of the system can be traced to several issues. The whole process of WRS has more risks than the usual method of selling directly to middlemen, who often pay even before harvest, and which farmers may have used for generations. There is a possibility that the harvested commodities could get rejected by the warehouse if they do not meet the requirements and fail the quality tests. Moreover, smallholder farmers are struggling to fulfill the minimum weight and quality requirements. There are also other challenges, including the limited role of warehouse operators, lack of supporting facilities such as storage and post-harvesting machinery, transport costs, and the absence of an integrated supply chain where farmers' concerns about the importance of off-takers are highlighted. According to Bappebti, farmers' lack of understanding of WRS is also a major challenge to uptake.

Issues Affecting Farmers' Participation in WRS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While WRS is aimed at improving farmer's livelihood and income, uptake by farmers is far from what was envisioned when the program was created. Issues that influence whether farmer's participate as warehouse users are explained as follows.

For most farmers, expensive transport costs act as a barrier to using WRS warehouses (Gunawan et al., 2019). In some parts of Indonesia, WRS warehouses are not located close to where agricultural activities take place (Fachruddin & Rahayu, 2017; DPR RI, 2021). When pick-up services are not offered by a warehouse, farmers must transport the harvested goods to a WRS warehouse to participate in the program, and longer distances increase costs. This is in contrast to selling produce to middlemen, who typically come to the farmers to pick up the harvest.

The location criteria for WRS warehouses are regulated through Bappebti Regulation No. 4/2016, which stipulates that warehouses must be built in areas safe from landslides and flooding and have direct access to roads or waterways (Bappebti, 2019). Despite these requirements, in some areas, warehouses are not well connected and have poor road access. For example, in Barito Kuala District, South Kalimantan, WRS implementation falls short due to poor connecting roads which are susceptible to post flooding damage (DPR RI, 2022).

Smallholder farmers also struggle to satisfy quality and weight requirements. Most smallholder farmers in Indonesia still use the traditional method of drying grain in the sun, which requires longer drying time, depends on weather, and yields less reliable product quality (Maryana & Meithasari, 2019). A study by Bank Indonesia (2017) found that smallholder paddy farmers in Kuningan district, West Java, struggled to meet the minimum weight, set at 10 tonnes by the local warehouse. This adds to farmers' reluctance to move their own product to the warehouse, since it may be rejected if it fails to meet the warehouse standards. Farmers do not need to worry about weight and quality requirements when selling to middlemen, who often pay for products before the harvest.

Warehouses also lack post-harvesting facilities, machinery (such as dryers for rice and maize), and ideal storage conditions that would improve the quality farmers are able to achieve for their products. These facilities are typically owned by commodity processors in the private sector. With more participation by the private sector in warehousing, these services could be offered as "add-ons" by warehouses. Businesses can attach their services—such as dryers, milling units, pickup points for logistics connections—to warehouses. Warehouses may even treat these businesses as tenants. This is a commonly used business model in other nodes in the logistics system, such as seaports and airports, but it is not the norm in WRS. Establishing cooperation with private logistic companies, as is the norm in other parts of the supply chain, would also allow warehouse operators and farmers to organize transport efficiently. Making these services available in the warehouses would also allow farmers to bypass several middlemen and sell processed commodities at a higher value.

In addition to facilities to improve product quality, warehouses also lack the facilities necessary to preserve the quality of stored products. One warehouse was found to be storing paddy, rice, milled rice, and maize together, which increases the risk of pest contamination (Gunawan et al., 2019). Damage or loss caused by inadequate storage facilities creates risks for those who use the warehouse, further reducing the attractiveness of the warehouse as a storage facility for farmers and reducing the attractiveness of WRS receipts as collateral for financing institutions. Some warehouses have adopted storage technology that helps maintain the quality of the stored goods, such as controlled atmosphere storage (CAS), which was implemented by the MOT for shallot warehouses in Brebes District, Central Java, one of Indonesia's biggest shallot producers (MOT, 2020). However, the use of this technology in WRS warehouses is still limited.

Most warehouse operators have limited capital and lack the capacity to manage and integrate their business in the commodity supply chain. The lack of supporting facilities and the lack of direct connection to farmers may be a result of this lack of resources (Bank Indonesia, 2017). While different entities such as cooperatives, local-government-owned companies, and private enterprises are eligible to manage warehouses, Bappebti has a minimum capital requirement for warehouse operators of IDR 250 million to IDR 500 million depending on the type of organization.[4] This creates a barrier to entry for warehouse operators, and a study in South Konawe by Bank Indonesia (2017) found that warehouse operational costs are also considered quite high, which may make the investment less attractive still.

Bank Indonesia (2017) also found that warehouse operators often lack entrepreneurial and managerial skills. In an interview, Bappebti revealed that it considers the role of warehouse operators poorly fulfilled since they do not play an active role in persuading farmers and financing institutions to participate in WRS (Interview 1). While it is critical to gain the trust and pique the interest of both farmers and financing institutions, warehouse operators often do not pursue buyers (such as from processing companies, exporters, and auction markets) or coordinate with the local government to ensure enough buyers. Better management of warehouses would assist with supply chain integration that would require business development through outreach to farmers, farmer groups, or cooperatives, and facilitating transportation of farmers' commodities to the warehouses.

Finally, relevant stakeholders are not sufficiently aware of warehouses, their locations, or the commodities stored in them. Access to up-to-date market information for commodities may also increase the usefulness of WRS to farmers (Ashari, 2011).

[4] This requirement is laid out in Bappebti Regulation No. 9/2018 on Approval as Warehouse Operator of Warehouse Receipt System.

Way Forward

WRS could be developed to improve farmers' participation by adopting the following proposals.

1. WRS needs to offer better value to farmers if it hopes to convince them to use the system rather than selling to the closest middlemen. Warehouses can increase value added to farmers in two ways. First, by providing post-harvesting services to improve and preserve product quality and allow farmers to bypass middlemen, and second, through better supply chain integration. As the principal regulator for WRS, Bappebti should prioritize these goals in its WRS development plan and strategy.

2. Private sector participation should be encouraged as part of warehouse business development. This would both improve the entrepreneurial and managerial skills of warehouse operators and increase the number of services offered at warehouses. In order to increase interest by the private sector in such partnerships, transparent pricing, tracking systems, and insurance could be emphasized to reduce risk to potential partners. In coordination with the Ministry of Finance, tax incentives or subsidies for private investors and service providers may also be considered. This strategy also relieves Bappebti and warehouse operators from the high capital expenditure required to provide warehouse facilities and infrastructure.

3. Bappebti should lead the preparation of a national roadmap of WRS development to improve commodities concerns, warehouse locations, and connection with production and industrial centers to attract investments. Local governments should be closely involved in formulating the roadmap, especially in proposing the locations for new warehouses and improvements for idle or underperforming warehouses. Bappebti should assess local proposals using criteria that support providing value, such as market access, past performance of warehouse operators, and business development plans. Bappebti should also assess business plans from the local government that detail existing or potential partnerships with local businesses, a marketing plan to increase farmer's awareness, and incentives or financing options for farmers or private sector partners, as local solutions to these problems will also contribute to creating value for users of WRS.

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Azizah Fauzi graduated with a Master of Arts in International Political Economy from the University of Manchester and a Bachelor of Arts in International Relations from the University of Nottingham. Her research interests include rural development and the political economy of international migration. At CIPS she completed the Emerging Policy Leaders Program (EPLP) in 2021 and then joined the agriculture research team.

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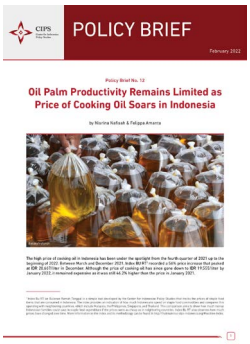

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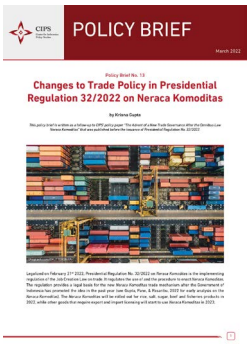

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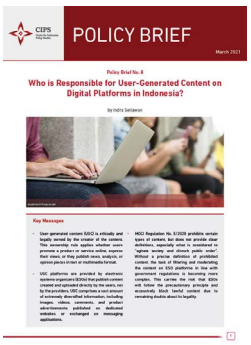

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