

NATIONAL INTERPRETATION GUIDELINE

**SUSTAINABLE RICE PLATFORM (SRP) STANDARD
FOR SUSTAINABLE RICE CULTIVATION
INDONESIA
2025**

EXECUTIVE SUMMARY

Indonesia faces serious challenges in ensuring the sustainability of its rice sector, a national strategic commodity. The year-on-year increase in demand for rice is inversely proportional to various pressures on the production system, including land conversion, soil degradation, dependence on chemical fertilisers, water constraints, and the impacts of climate change. This situation is exacerbated by low farmer regeneration, weak supply chain efficiency, and governance that is not yet fully integrated across sectors. In this situation, transforming the rice production system based on sustainable practices is an urgent need for Indonesia to maintain food security while reducing ecological pressures.

Research on the sustainability index of rice cultivation conducted in five central rice-producing districts—Boyolali, Klaten, Sragen, Ngawi, and Madiun—showed that current cultivation practices fall into the "fairly sustainable" category. Multidimensional analysis identified the key factors that most influence sustainability, namely the use of organic fertilisers, irrigation conditions, pest and disease management, occupational safety, and the institutional capacity of farmer groups. Although some practices have been implemented well, significant gaps remain, particularly in water efficiency, crop residue management, post-harvest technology, and policy harmonisation between the central and regional governments. These findings underscore the need for developing more systematic and comprehensive national guidelines.

The Sustainable Rice Platform (SRP) offers a comprehensive global standards framework to address this gap. The SRP includes internationally validated technical, environmental, social, economic, and governance indicators. In addition to providing guidance on sustainable cultivation, the SRP provides a performance assessment and verification mechanism that can be used as an MRV (Restoration and Valuation) tool (measurement, reporting, verification) for climate policy and resilient development. Another advantage of the SRP is its flexibility to be contextualised at the national level through the development of National Interpretation Guidelines (NIG), so the standard can be adapted without losing its scientific integrity.

The adoption of the SRP also brings institutional and market benefits to Indonesia. Institutionally, the SRP encourages the formation of a National Chapter and a National Working Group (NWG), which serve as multi-stakeholder platforms for policy harmonisation, government program integration, and private sector initiatives. At the market level, the SRP opens opportunities for farmers and businesses to enter the sustainable rice supply chain, including access to premium markets that provide added economic value. Thus, the adoption of the SRP is not merely a technical instrument, but a sustainable development strategy that connects the interests of farmers, the government, and the market.

This National Interpretation Guideline (NIG) document was developed as a starting point for Indonesia in adapting the SRP contextually based on field evidence. This document contains standards for sustainable rice cultivation developed through a multi-stakeholder consultative process, analysis of national regulations, and integration of research findings in five districts. This NIG is expected to become an official reference for developing policies, mentoring programs, and verification mechanisms for more effective, inclusive, and sustainable Indonesian rice cultivation practices. Therefore, this document serves not only as a technical guide but also as a strategic recommendation for considering the adoption of the SRP as a national framework for transforming Indonesia's food system.

TABLE OF CONTENT

EXECUTIVE SUMMARY	I
TABLE OF CONTENT	II
LIST OF TABLES	III
LIST OF FIGURES	III
I. INTRODUCTION	1
1.1 DEFINITION OF SUSTAINABLE AGRICULTURE	1
1.2 SUSTAINABLE AGRICULTURE POLICY IN INDONESIA	2
1.3 INDONESIA NATIONAL STANDARDS SUPPORTING SUSTAINABLE AGRICULTURE	5
1.4 SUSTAINABLE RICE PLATFORM AND NATIONAL CHAPTER	5
II. SUSTAINABLE RICE FARMING STANDARDS IN INDONESIA	9
2.1 ANALYSIS OF THE SUSTAINABILITY INDEX OF RICE CULTIVATIONS STANDARDS	9
2.2 PRINCIPLES IN DEVELOPING SUSTAINABLE RICE FARMING STANDARDS FOR INDONESIA	12
2.3 STRUCTURE OF INDONESIA'S SUSTAINABLE RICE PLATFORMS	13
2.3.1 <i>Indonesia's Sustainable Rice Cultivation Standards</i>	13
2.3.2 <i>Sustainable Rice Farming Governance Standards</i>	87
2.4 PROVISIONS ON THE INAPPLICABILITY OF REQUIREMENTS IN THE INDONESIAN SUSTAINABLE RICE CULTIVATION STANDARDS	88
2.5 SUSTAINABLE RICE CULTIVATION STANDARDS SCORE IN INDONESIA	89
III. BENCHMARK	91
IV. CONCLUSION AND RECOMMENDATIONS	125
4.1 CONCLUSION	125
4.2 RECOMMENDATIONS	126
REFERENCES	127

LIST OF TABLES

Table 1. Harvested area and rice production in Indonesia 2022 – 2024.....	1
Table 2. Themes and Requirements of the Indonesia’s Sustainable Rice Cultivation Standards.....	13
Table 3. Comparison between the SRP Standards for Sustainable Rice Cultivation v2.2 and the Indonesian SRP for Sustainable Rice Cultivation Standards.....	18
Table 4. Institutional Requirements and Policies	87
Tabel 5. Max Score Obtained Based on Certain Conditions	90

LIST OF FIGURES

Figure 1. Roadmap for the Establishment of the SRP Chapter Indonesia 2023	8
Figure 2. Sustainability Index of Rice Cultivation in Rice Production Centers	9
Figure 3. Indonesian SRP Weighting for Sustainable Rice Cultivation Standards	89

I. INTRODUCTION

1.1 Definition of Sustainable Agriculture

The Sustainable Agricultural Cultivation System, as regulated under Law No. 22 of 2019 on the Sustainable Agricultural Cultivation System, is defined as the management of biological natural resources in producing agricultural commodities to better and sustainably meet human needs while preserving environmental integrity. This concept is an integral part of Sustainable Development, which is founded on three main pillars: environmental, economic, and social. Balance among these three pillars is a fundamental prerequisite for sustainability, further reinforced by technological and institutional dimensions as supporting factors in the implementation of sustainable agricultural cultivation. In general, the main objectives of sustainable agriculture are as follows:

1. To conserve soil, water, Sustainable Development Goals (SDGs), and ecosystems so that they remain productive and balanced in the long term.
2. To reduce greenhouse gas (GHG) emissions and strengthen the resilience of production systems to the impacts of extreme climate events.
3. To increase farmers' income, welfare, and equity in a fair and inclusive manner.
4. To reduce dependence on external inputs (fertilizers, pesticides, and fossil fuels) by optimizing local resources.
5. To produce food that is safe, healthy, and nutritious.

In practice, the application of sustainable agriculture principles has become increasingly important when addressing the conditions, pressures, and threats faced by the rice farming sector. These conditions and pressures have driven the rice sector to strengthen sustainability aspects. Sustainability encompasses environmental, social, and economic dimensions. At the global level, awareness of the importance of sustainability is also based on the fact that rice is the staple food for more than 3.5 billion people worldwide; nearly 60% of the world's hungry population depends on rice as a source of food and income; and approximately 20% of global dietary energy is derived from rice. In Indonesia, the rice farming sector also serves as the backbone of national food security, providing more than 90% of the population's carbohydrate intake (FAO, 2021). According to data released by Statistics Indonesia (BPS, 2025), trends in harvested area, paddy production, and rice output during the 2022–2024 period experienced a decline (Table 1). This decline has occurred not only due to increasing land-use conversion but also as a result of global climate change, which has triggered extreme weather phenomena such as El Niño and La Niña, outbreaks of pests and diseases, and natural disasters.

Table 1. Harvested area and rice production in Indonesia 2022 – 2024

Year	Harvested Area (hectares)	Dry Milled Grain (GKG) Production (tons)	Rice Production (tons)
2022	10.452.672	54.748.977	31.540.522
2023	10.213.705	53.980.993	31.101.285
2024	10.046.135	53.142.726	30.621.248

Source: BPS (2025)

These conditions pose a serious challenge for the Government of Indonesia, particularly in achieving food self-sufficiency targets as part of national food security. In

addition to climate and environmental challenges, the national rice sector also faces institutional constraints and weak cross-sectoral coordination, resulting in overlapping policies and unclear division of authority among institutions. In response to these challenges, the adoption of sustainable agricultural cultivation practices has become a strategic necessity. One such practice is the application of cultivation methods based on the Sustainable Rice Platform (SRP) standard.

SRP is a set of cultivation practices operating under the broader framework of the Sustainable Agricultural Cultivation System. SRP provides a comprehensive and standardized approach to sustainable rice cultivation, designed to address environmental, social, and economic challenges in an integrated manner. Although the SRP standard originates from a global rice cultivation framework, the requirements under each SRP indicator can be adapted to specific regional or national contexts. The definition of SRP encompasses aspects that are more complex than organic farming practices alone. While organic agriculture focuses on the avoidance of chemical fertilizers and synthetic pesticides and emphasizes ecosystem and consumer health, SRP adopts a more holistic perspective by integrating environmental, economic, social, technological, institutional, and policy dimensions. The SRP standard for sustainable rice cultivation consists of 41 requirements grouped into eight main thematic areas, namely:

1. Firm Management
2. Pre Planting
3. Water usage
4. Nutrient Management
5. Integrated Pest Management
6. Harvest & Post Harvest
7. Health and Safety
8. Labor Rights

This standard enables the adoption of climate-resilient sustainable practices among smallholder farmers. The SRP Assurance Scheme also allows actors within the rice value chain to demonstrate compliance with the standard, linked to performance indicators, and to substantiate claims that rice has been cultivated sustainably. The SRP standard further enables the evaluation of farmers based on the level of implementation of sustainable rice cultivation practices they apply. This evaluation serves two main purposes, namely:

1. The SRP standard provides a framework that allows users to claim that their rice is cultivated or sourced sustainably. Such claims must be based on a high and verifiable level of overall compliance.
2. SRP has established minimum scores and mandatory compliance levels (thresholds) that must be achieved for each requirement in order to qualify for claims of sustainably cultivated rice.

1.2 Sustainable Agriculture Policy in Indonesia

In Indonesia, the government has begun to place greater emphasis on addressing the impacts of climate change through a low-carbon agricultural development agenda, including the implementation of sustainable cultivation practices. This commitment is reflected in the National Long-Term Development Plan (RPJPN) 2025–2045. Sustainable rice farming supports the achievement of food self-sufficiency targets through the National Priority Program for the Development of Sustainable Agricultural Cultivation Systems (PN 2) in the National Medium-Term Development Plan (RPJMN) 2025–2029. Under Priority

Activity (KP) 18, the development of sustainable agricultural cultivation systems is measured through an index that reflects compliance with standards and regulations. Therefore, sustainable rice farming directly contributes to improving compliance with these standards and regulations.

The main regulations for sustainable agriculture in Indonesia are regulated by Undang-Undang No. 22 of 2019 concerning the Sustainable Agricultural Cultivation System (SBPB), which establishes the basic principles of environmentally friendly, efficient, and equitable agricultural resource management. This law regulates soil and water conservation, responsible input use, cultivation standards, and farmer protection from socio-economic risks. In addition, Undang-Undang No. 41 of 2009 concerning the Protection of Sustainable Food Agricultural Land (PLP2B) strengthens sustainability by preventing the conversion of rice fields through the designation of Sustainable Food Agricultural Land (LP2B). This framework is clarified through Government Regulation (PP) No. 25 of 2012 concerning the Sustainable Food Agricultural Land Information System, which regulates spatial planning and incentives for regions in maintaining LP2B. These regulations form the basis of national policy to ensure the sustainability of strategic food production, especially rice.

At the technical level, the Indonesian Ministry of Agriculture has issued several regulations to strengthen sustainable agricultural practices, particularly related to chemical and organic fertilisers and pesticides. These regulations aim to ensure that the production, distribution, and use of agricultural inputs are properly monitored in accordance with national standards, while also protecting farmers, consumers, and the environment from potential risks associated with improper use. Several key regulations related to fertilisers and pesticides in Indonesia include:

1. Minister of Agriculture Regulation No. 01/2019 on the Registration of Organic Fertilisers, Biofertilizers, and Soil Enhancers, which establishes quality standards, production requirements, including approved raw materials, and distribution mechanisms for organic and biological fertilisers.
2. Minister of Agriculture Regulation No. 43/2019 on Pesticide Registration, which sets quality standards and regulates the types, functions, application, production, and distribution of pesticides. Commonly used chemical fertilisers such as urea and NPK also fall under government supervision as subsidised products.
3. Government Regulation (PP) No. 6/2025 on the Governance of Subsidised Fertilisers, which regulates the distribution and supervision of specific subsidised fertilisers (Urea, NPK, Organic, SP-36, and ZA) to ensure the *seven rights*: the right type, right quantity, right price, right place, right time, right quality, and right recipient.

Another key technical regulation related to agricultural cultivation inputs is the Minister of Agriculture Regulation No. 12/2018 on the Production, Certification, and Distribution of Plant Seeds. This regulation governs the entire lifecycle of seed management in Indonesia from production and certification to distribution, including rice seeds. Under this regulation, all seed producers and distributors are required to meet national quality standards, register seed varieties, participate in certification processes, and ensure that labelling and packaging comply with applicable rules. Oversight is conducted by seed certification agencies along with provincial and district agricultural offices, ensuring that seeds distributed to farmers meet approved quality benchmarks. The regulation also outlines procedures for determining seed classes (BD, BP, BR, DS), field

inspections, laboratory testing, and the mechanism for issuing official certificates and labels. In this way, the regulation serves as a national standard designed to guarantee the quality, varietal identity, and safety of seeds before they reach farmers.

Water resources, as one of the most essential inputs for agricultural production, are legally governed by Undang-Undang No. 7/2004 on Water Resources, which provides the legal foundation for water management. The law emphasises the social function of water, environmental protection, prioritising water access for smallholder farmers, and the importance of sustainable water use. It also establishes principles of community participation and the obligation to maintain ecological balance in water resource development. This mandate is further operationalised through Government Regulation (PP) No. 20/2006 on Irrigation, which outlines irrigation governance, including the division of authority between the national, provincial, and district governments; obligations to develop effective irrigation systems; and the need to involve farmers and local communities in irrigation decision-making. The policy ensures that irrigation infrastructure supports food security, equitable access, and water conservation. At the technical level, irrigation management is regulated through the Minister of Public Works and Public Housing Regulation (PUPR) No. 4/2021 on Guidelines for the Implementation of the Irrigation Water Utilisation Acceleration Program (P3-TGAI). This regulation focuses on the rehabilitation and development of irrigation networks through community-based participation mechanisms involving P3A/GP3A/Induk P3A farmer water user associations. It aims to strengthen farmers' capacity to manage water independently and ensure that irrigation development follows principles of efficiency, accuracy, and transparency in government budgeting.

These regulations on water resources illustrate that agricultural sustainability is shaped not only by the presence of physical infrastructure, but also by governance systems that meaningfully involve farmers as central actors in managing irrigation. Farmer participation in governance is not limited to water management; it also extends to the administration of subsidised fertilisers and the regulatory frameworks governing seed production and distribution. Beyond these technical domains, various national policies further affirm farmers' roles as key agents of rural development. Farmer institutions are positioned as critical mechanisms for capacity building, risk reduction, and integration into fairer and more resilient agricultural value chains. Undang-Undang No. 19/2013 on the Protection and Empowerment of Farmers underscores that empowerment must include strengthening farmers' business capacities, improving access to production inputs, expanding training opportunities, enhancing market literacy, and consolidating farmer groups and associations (GAPOKTAN). Likewise, Government Regulation (PP) No. 7/2021 on the Facilitation, Protection, and Empowerment of Cooperatives and MSMEs, particularly Article 34, emphasises the importance of supporting agricultural cooperatives through farmer corporate schemes, value added activities, and long term business sustainability. Together, these policy frameworks demonstrate a shift in how farmer institutions are understood not merely as social collectives, but as economic entities capable of developing into community based enterprises. This approach aligns with the sustainable agriculture agenda, which requires strong local economic structures so that farmers can adopt environmentally friendly practices without facing excessive financial burdens.

1.3 Indonesia National Standards Supporting Sustainable Agriculture

Indonesia also has technical standards set by the National Standardisation Agency (BSN) to ensure the quality, safety, and consistency of products and production processes for agricultural cultivation, namely the Indonesian National Standard (SNI) 8969:2021 concerning INDO-GAP (Good Agricultural Practices), SNI 6729:2016 on Organic Agriculture, and SNI 9248:2024 on Rice Plant Adaptation Testing. SNI INDOGAP and SNI Organic Agriculture aim to improve agricultural sustainability by strengthening safe, responsible, and long term cultivation practices. Both SNI emphasise the importance of traceability and a farming recording system to ensure supply chain transparency and producer accountability. From an environmental perspective, the two standards help reduce pollution risks by limiting hazardous synthetic inputs, encouraging improved soil health, supporting water conservation, and promoting cultivation practices that minimise ecosystem damage. Socially, SNI INDO-GAP and SNI Organic require compliance with occupational health and safety, orderly farm management, and the active involvement of farmer institutions as part of the quality assurance system. Economically, these standards aim to enhance production efficiency, improve crop quality, and strengthen the competitiveness of Indonesian agricultural products through market recognised certification.

However, the two standards differ in their level of assurance. SNI INDO-GAP serves as a minimum assurance to ensure safe and environmentally friendly cultivation practices in stages by still allowing the use of synthetic inputs, but regulated by safe use and appropriate dosages. In contrast, the SNI for Organic Agriculture represents a higher level assurance standard that governs the entire production system based on ecological principles. It requires integrated ecosystem management, prohibits the use of chemical fertilisers and pesticides, and mandates a land conversion period of approximately three years before an area can be certified as organic.

Whereas, SNI 9248:2024 concerning Adaptation Testing of Lowland Rice Plants regulates the procedures for adaptation testing of lowland rice varieties to assess agronomic performance, resistance to biotic and abiotic stresses, and suitability of the variety to local agroecosystem conditions. This standard establishes methods for evaluating productivity, water and nutrient use efficiency, resistance to pests and diseases, and yield stability in various environments. Through this SNI, rice varieties are scientifically tested before being recommended to farmers or released as national superior varieties, thereby reducing the risk of cultivation failure and supporting more resilient rice production systems.

1.4 Sustainable Rice Platform and National Chapter

At the global level, numerous stakeholders have initiated efforts to transform rice production toward greater sustainability. One of the most prominent initiatives is the Sustainable Rice Platform (SRP), a global multi-stakeholder alliance established in 2011 and co-convened by the International Rice Research Institute (IRRI), the United Nations Environment Programme (UNEP), and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. Today, SRP comprises more than 100 member institutions, including government agencies, private sector actors, research organisations, financial institutions, and civil society organisations (CSOs).

SRP develops and promotes tools and standards that are designed to guide the transition toward more sustainable rice production systems. These instruments are designed

to enhance the global availability of rice that meets both affordability and sustainability criteria, improve the livelihoods of rice farmers, and reduce the negative environmental impacts from rice cultivation. The key SRP instruments include:

1. **SRP Standard for Sustainable Rice Cultivation v2.2**, a global standard comprising 41 requirements across three dimensions: environmental, social, and institutional.
2. **Performance Indicators (PIs)** are a set of quantitative measures used to assess the environmental, social, and economic performance of farmers and farmer groups.
3. **SRP Assurance Scheme**, a verification system that ensures production units meet SRP Standard requirements and are eligible to make credible sustainability claims.

These instruments can be applied across the rice value chain, by farmers, millers, businesses, government agencies, and researchers, to strengthen scientific understanding and improve production practices. Moreover, the implementation of the SRP Standard for Sustainable Rice Cultivation v2.2 and Assurance Scheme enables traceability of rice and paddy production at the farmer or farmers' group level, ensuring that sustainability claims made by value chain actors are verifiable, structured, and transparent.

Indonesia has several technical standards for sustainable agricultural practices, including the Indonesian National Standard (SNI) related to sustainability oriented cultivation, such as the SNI Organic Farming System and the SNI on Good Agricultural Practices (GAP). However, these policies and instruments are not rice specific. The adoption of the SRP Standard for Sustainable Rice Cultivation v2.2 can fill this gap and can be a bridging framework for sustainable agricultural cultivation, particularly for rice.

Adopting the SRP Standard requires a comprehensive review of relevant national regulations, technical guidelines, and the Indonesian National Standards for Organic Farming Systems and Agricultural Products (GAP). When benchmarked against the requirements of the SRP Standard for Sustainable Rice Cultivation v2.2, several areas of alignment and gaps emerge (a detailed analysis is presented in Chapter 4 of this document):

1. Several requirements of SRP Standards for Sustainable Rice Cultivation v2.2, such as the use of certified seeds, the implementation of Integrated Pest Management (IPM), and occupational health and safety (OHS/K3) mechanisms, have equivalent provisions within existing national regulations or technical guidelines.
2. However, requirements of SRP Standards for Sustainable Rice Cultivation v2.2, particularly those concerning water management, soil quality monitoring (including heavy metals and salinity), invasive species management, multi-tiered farm record keeping systems, and quantitative indicators for emission reduction, are not yet fully accommodated within the SNI or national technical guidelines, and in some cases remain at the level of general policy statements.

However, the implementation of these global standards requires a process of contextual adjustment to ensure alignment with Indonesia's policy framework, agroecological conditions, irrigation systems, characteristics of smallholder farmers, and prevailing social and institutional dynamics. The SRP recognises that rice producing countries possess their own unique characteristics; therefore, it explicitly allows each country to undertake national interpretation through the development of a National Interpretation Guideline (NIG). This flexibility is a key element in ensuring that the 41 requirements of the SRP Standards for Sustainable Rice Cultivation v2.2 can be applied realistically and effectively according to national circumstances. The NIG serves as the

official mechanism for aligning the SRP Standards for Sustainable Rice Cultivation v2.2 requirements with national conditions by calibrating compliance levels, refining technical interpretations, determining allowable exceptions, and adapting terminology and procedures, while maintaining the integrity of the global standard. In Indonesia, this adaptability is important, given the diversity and complexity of the national rice production landscape, which includes multiple agro-ecosystems ranging from fully technical and semi-technical irrigation systems to simple irrigation and rainfed lowland systems, alongside variations in the institutional capacity of farmer organisations and farmer groups.

Beyond just technical instruments, the SRP also provides a multi-stakeholder platform for involvement in the implementation, monitoring, and evaluation of standards. Experiences from other implementing countries, such as Pakistan, Cambodia, Vietnam, and Thailand, demonstrate that multi-stakeholder coordination is essential for effective SRP uptake, as it requires collaboration among governments, research institutions, farmers, the private sector, financial actors, and certification bodies. This approach aligns with national policy directions that emphasise inclusive governance, scientific integration, strengthened local resilience, and evidence based adaptation measures in the agricultural sector. At the national level, the SRP encourages the establishment of a National Working Group (NWG) or a National Chapter as a formal multi-stakeholder forum that brings together various interests and ensures that the adaptation of standards is appropriate to the local context.

The SRP National Chapter is a country-level coalition comprising diverse institutions across the rice value chain, including public and private sector entities, international organisations and development partners, research institutions, non-profit organisations, and producer groups. The National Chapter reflects the SRP's overarching vision, mission, and approach, and aims to promote the adoption of climate-smart and sustainable rice cultivation practices through policy advocacy and market oriented strategies. The establishment of a National Chapter follows several key stages:

1. Obtaining formal approval from the Global SRP Secretariat to initiate the process;
2. Forming a National Working Group (NWG);
3. Selecting and designating an organisation or institution to serve as the Host of the National Chapter; and
4. The Host appoints a National Coordinator responsible for facilitating organisational development and coordination.

In Indonesia, the process of establishing the SRP National Chapter has begun with the formation of an NWG, consisting of representatives from government agencies, private sector actors, and CSOs. List of SRP members NWG Indonesia, namely:

1. Indonesian Organic Alliance (AOI)
2. Planning Bureau of the Ministry of Agriculture of the Republic of Indonesia
3. Corteva Agriscience Indonesia
4. CropLife Indonesia
5. Harvest Plus
6. People's Coalition for Food Sovereignty (KRKP)
7. Indonesian Rice Milling and Rice Entrepreneurs Association (PERPADI)
8. Preferred by Nature (PbN)
9. Provivi Pheromones Indonesia
10. Harvest Indonesia
11. Syngenta Indonesia

The establishment of the National Working Group (NWG) in Indonesia unfolded through an extensive and multi-layered process, reflecting the complexity of mobilising diverse stakeholders across sectors within the national rice value chain. The inaugural meeting of the SRP National Working Group, held on 31 October 2023 at Aone Hotel, Jakarta, marked a significant milestone in institutionalising multi-stakeholder collaboration for sustainable rice governance. The meeting aimed to align the NWG's mandate with national priorities on poverty reduction and food security, recognising the rice sector as a strategic entry point for accelerating Indonesia's progress toward the Sustainable Development Goals (SDGs). It also pursues formalisation of the organisational structure and clearly defines the roles, responsibilities, and operational functions of both the NWG as organisations and its members.

The establishment of this institutional arrangement was initiated through a dialogue series. The initial discussion, conducted on 24 May 2023 in Depok, West Java, examined the national need to shift toward sustainable rice production. A following dialogue focused on developing the framework and roadmap for the NWG as part of the process of establishing the SRP National Chapter in Indonesia. This was followed by a multi-stakeholder workshop in Solo, Central Java, on 3–4 July 2023, which brought the initial framework and work plan while gathering feedback from government, private sector actors, and CSOs. Responding to recommendations from this workshop, a final expert consultation was held on 22 September 2023 at IPB University in Bogor which involved academic and technical specialists to ensure a strong scientific basis for the NWG's design process.

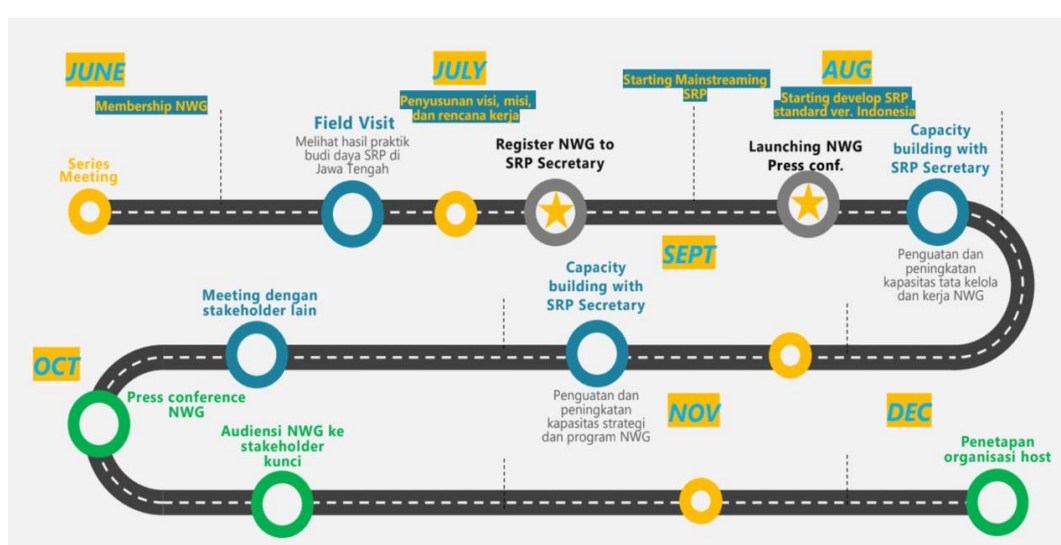


Figure 1. Roadmap for the Establishment of the SRP Chapter Indonesia 2023

II. SUSTAINABLE RICE FARMING STANDARDS IN INDONESIA

2.1 Analysis of the Sustainability Index of Rice Cultivations Standards

To obtain the actual conditions of rice cultivation practices in Indonesia and to assess the applicability of indicators of the SRP Standards for Sustainable Rice Cultivation v2.2 in local contexts, the People's Coalition for Food Sovereignty (KRKP), through the Low Carbon Rice Project, conducted research to analyse the sustainable rice cultivation index in five districts: Boyolali, Klaten, Sragen, Ngawi, and Madiun. This research used a set of sustainability indicators drawn from several reference frameworks, including the SRP Standards for Sustainable Rice Cultivation v2.2, which were then adjusted and organised into 5 dimensions of sustainability: environmental, economic, social, technological, and institutional and policy dimensions.

The results show that rice cultivation in the five districts is classified as “moderately sustainable,” as reflected in the average index score of 59.85%. This indicates that farmers have adopted sustainable practices to a reasonable extent. As shown in Figure 2, the economic, social, institutional-policy, and environmental dimensions demonstrate relatively strong performance across the research areas, while the technological dimension remains the weakest.

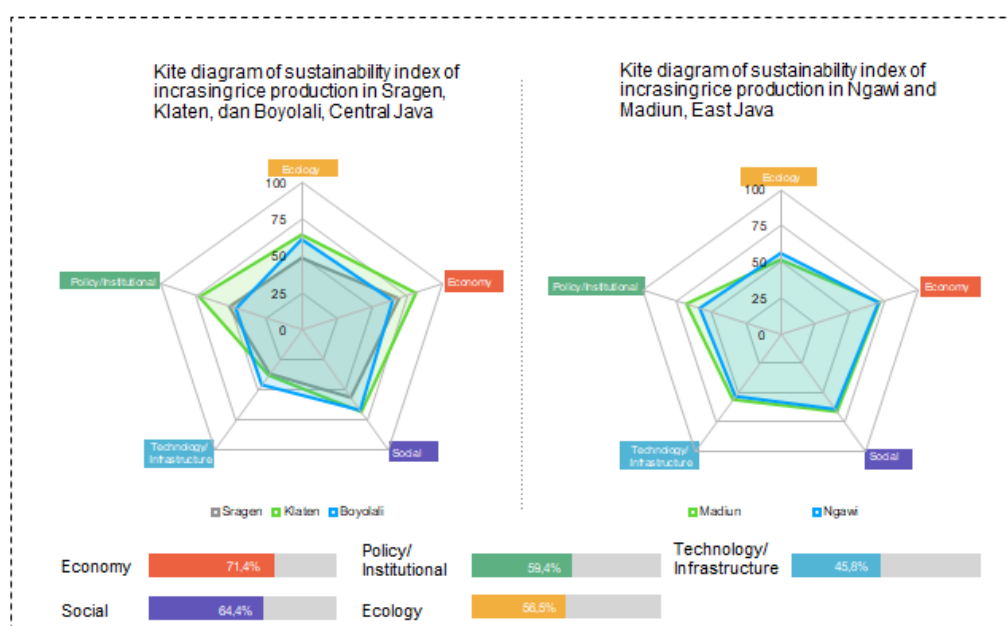


Figure 2. Sustainability Index of Rice Cultivation in Rice Production Centers

The economic and social dimensions are relatively strong, as indicated by fairly stable farm income, the active role of farmer groups, and the minimal incidence of forced labor and child labor. Nevertheless, all districts exhibit consistent weaknesses in the environmental and technological dimensions, including high dependence on chemical fertilizers and pesticides, monocropping practices, deterioration of irrigation infrastructure, and limited adoption of cultivation and post-harvest technologies. These findings indicate that while most basic cultivation attributes are already in place, technical innovation and governance mechanisms remain underdeveloped.

The environmental dimension records the lowest sustainability score compared to other dimensions, as key sustainability indicators such as the use of personal protective equipment (PPE), the Alternate Wetting and Drying (AWD) irrigation technique, and integrated pest and disease management have not been adequately implemented. The use of PPE during farming activities, particularly during fertilizer and pesticide application, remains limited because farmers' constrained economic conditions restrict access to complete and high-quality PPE. Thermal discomfort is also a major reason why many farmers and agricultural workers choose not to wear PPE. With regard to AWD irrigation technology, research findings indicate that only 37% of farmers apply this method. This is largely due to the increased weed growth associated with AWD, which in turn raises labor costs for weeding and places an additional burden on farmers.

When compared to SRP Standard v2.2, several other indicators appear to be ready for adoption, particularly in the social dimension (fair wages, absence of forced labor, occupational safety), group management, and certain pre-planting practices, such as the use of improved seed varieties and consistent land preparation. However, a number of SRP indicators cannot yet be fulfilled due to structural gaps, including water management (water budgeting, monitoring, and efficiency), which remains difficult to implement because of unsuitable irrigation systems and field locations, as well as nutrient management and pest and disease control. These limitations are driven by the dominant use of chemical fertilizers and pesticides that are often unrecorded and improperly dosed, as well as technological shortcomings such as limited PPE use, low levels of mechanization, inadequate waste management, and insufficient reduction of post-harvest losses conditions that remain far below the standards set by SRP v2.2. Accordingly, the adoption of SRP Standard v2.2 in Indonesia, based on the sustainability index assessment of rice cultivation practices, is feasible but cannot yet be fully achieved without holistic interventions. Therefore, the formulation of the National Implementation Guidelines (NIG) requires a phased adaptation approach and strong policy support, particularly in the areas of irrigation infrastructure, agricultural extension services, and farmer capacity building, to enable a successful transition toward a truly sustainable rice production system.

Furthermore, the identification of indicators that significantly influence the achievement of the sustainable rice cultivation index provides valuable guidance for improving sustainability pillars. At the same time, a feasibility study on the expansion of the Sustainable Rice Platform (SRP) to one million hectares of rice farmland in Indonesia, conducted under the Low Carbon Rice Project, further enriches the evidence base for strengthening Indonesia's rice sector. Findings from five major rice-producing districts Boyolali, Klaten, Sragen, Madiun, and Ngawi indicate that, overall, based on 12 SRP performance indicators, all five regions have implemented cultivation practices at a technically adequate level. Nevertheless, several issues remain to be addressed, particularly those related to farmer institutions. An examination of each sustainability dimension reveals that the environmental dimension has shown moderate progress, with environmentally friendly agricultural practices beginning to be adopted, albeit not yet at scale. This underscores the need for collective efforts to promote broader adoption of environmentally sound practices. Institutional strengthening and farmer training are critical, yet both remain insufficient, highlighting the need for enhanced farmer organizations and improved skills and knowledge through training and extension programs. To date, the average cultivation practices applied by farmers in the five districts have not been sufficient to support household welfare, as reflected in low income levels and suboptimal labor efficiency. Among the five regions, Boyolali Regency is considered a

potential role model for the implementation of SRP-based cultivation practices. Based on the Analytical Hierarchy Process (AHP) assessment, Boyolali achieved a composite index score of 66.71%, indicating that, overall, the region is reasonably well-positioned for the implementation of the Sustainable Rice Platform (SRP) program, although further improvements are still required in several aspects.

The most dominant factor in Boyolali is water availability, which achieved a high final score (84.38%) and accounted for nearly half of the AHP weight (49.30%). Its contribution to the overall index reached 41.60%, making it the primary determinant of program success. This finding underscores that the sustainability of rice production in Boyolali is highly dependent on access to and quality of irrigation, as well as water-use efficiency. The second most influential factor is potential greenhouse gas (GHG) emissions, with a weight of 22.10% and an index contribution of 8.29%. Although its final score is relatively low (37.50%), the substantial weight assigned to this factor indicates its continued importance. This suggests a strong need to implement low-emission agricultural practices, such as straw management, Alternate Wetting and Drying (AWD) irrigation, and precision fertilization. Market access, institutional capacity, and transportation rank third, with a moderate final score (59.38%) and an index contribution of 7.36%. This indicates that existing infrastructure and distribution networks are relatively adequate, but still require strengthening to improve the efficiency of sustainable rice supply chains. Soil texture and rainfall carry relatively small weights (9.30% and 7.00%, respectively) and make limited contributions to the overall index, despite achieving fairly good final scores. These factors primarily function as supporting variables that help ensure productivity stability at the field level.

Beyond assessing regional feasibility for the implementation of the Sustainable Rice Platform (SRP), it is equally important to address factors that motivate farmers. Providing incentives to farmers can significantly enhance their motivation to transition toward sustainable agricultural practices. Findings from the Low Carbon Rice Project, conducted in collaboration with research institutions at IPB University, indicate that the provision of incentives has a significant impact on farm performance. The study also highlights several key aspects: (i) the main actors that play critical roles in the development of incentive schemes, (ii) the determinants of success in developing such schemes, and (iii) the types of incentive schemes that should be prioritized to promote sustainable agricultural practices. The findings indicate that the central government is perceived as the most strategic actor, given its authority over national policymaking, regulatory frameworks, and budget allocation, all of which strongly influence the direction and sustainability of low-carbon agriculture implementation across regions. In addition, the central government serves as a key driver in the formulation of national standards, the provision of incentives, and the facilitation of cross-sector partnerships required to strengthen the sustainable agriculture ecosystem. This prioritization reflects the view that the success of low-carbon sustainable rice development is highly dependent on macro-level policy support and effective inter-institutional coordination from the national to the subnational level. At the factor level, multi-stakeholder support emerges as the top priority in the development of low-carbon sustainable rice, as the successful implementation of such programs relies heavily on collaboration among diverse actors with different roles and interests along the agricultural value chain. The involvement of central and local governments, standard-setting bodies or certification institutions, universities, and non-governmental organizations (NGOs) is essential to creating a supportive ecosystem from upstream to downstream. Governments play a key role in establishing regulations and providing incentives, while universities and

research institutions contribute low-emission technological innovations. Synergies among these stakeholders enable knowledge transfer, resource efficiency, and long-term implementation sustainability.

Based on the Analytical Hierarchy Process (AHP) analysis, the incentive scheme prioritized for the development of low-carbon sustainable rice is a “special rice price incentive scheme.” This incentive scheme directly provides economic motivation for farmers to transition to and remain within sustainable agricultural systems. By offering a selling price higher than that of conventional rice, farmers are compensated for the additional efforts required to implement environmentally friendly practices, such as emission reduction, the use of organic fertilizers, resource-use efficiency, and the empowerment of women and persons with disabilities. This price incentive also reflects the added value of sustainability, both in terms of product quality and food safety, as well as its positive environmental impacts. Farmers therefore need to receive specific incentives in the implementation of low-carbon sustainable rice. Beyond improving farmer welfare, this scheme can foster the development of a fairer and more transparent sustainable rice supply chain, in which consumers are willing to pay a premium for products that contribute to climate change mitigation.

Overall, the expansion of SRP implementation to one million hectares must be grounded in the institutional readiness of local governments. Boyolali serves as a lighthouse model, Klaten–Madiun as replication zones, and Ngawi–Sragen as capacity-building zones. Institutional capacity is the key driver of acceleration. Without the establishment of an SRP Task Force and integration into the national green financing system or incentive support mechanisms, SRP risks remaining a technical project rather than achieving systemic transformation. To achieve the national target of one million hectares of SRP (Sustainable Rice Platform) implementation, development strategies must be based on empirical findings related to institutional readiness. Based on the readiness mapping of Boyolali–Klaten–Madiun–Ngawi–Sragen, the appropriate strategy should not be uniform, but rather phased, tiered, and grounded in regional institutional capacity, following a graduated scaling model.

2.2 Principles in Developing Sustainable Rice Farming Standards for Indonesia

The principles in compiling Indonesian agricultural standards for sustainable rice include:

1. This standard has been developed to address the needs and priorities of rice stakeholders in Indonesia while remaining grounded in the core principles of sustainable rice production, including equity, economic viability, environmental stewardship, health and safety, gender equality, respect for human rights, recognition of local culture and knowledge, good governance, and attention to youth and children.
2. The scope of the standard encompasses both rice cultivation practices and the institutional and policy frameworks that support sustainable rice production.
3. The requirements for cultivation practices are designed to align with the SRP Standards for Sustainable Rice Cultivation v2.2 by adapting to the local context in Indonesia.

4. Each requirement identifies the level of implementation and/or inspection (e.g., logos of individual rice farmers, rice farmer groups, and stakeholder groups) to indicate which sector is responsible for the requirement clearly.
5. All inputs gathered from stakeholders and observations from field farming practices must be integrated with the SRP Standards for Sustainable Rice Cultivation v2.2 to ensure the feasibility and acceptability of Indonesian agricultural standards for sustainable rice.
6. A “sustainable rice cultivation” claim may only be made if a minimum achievement score of 90% is reached and all adjusted thresholds are fully met.

2.3 Structure of Indonesia’s Sustainable Rice Platforms

Indonesia's Sustainable Rice Platform is structured into two main components. The first comprises the Indonesia Sustainable Rice Cultivation Standards include 41 requirements organised across 8 thematic areas. The second consists of the Sustainable Rice Farming Governance Standards, which focus on farming institutions and policy support, and are defined by five core requirements. The cultivation standards are adapted from the SRP Standards for Sustainable Rice Cultivation v2.2, with adjustments to reflect Indonesia’s local agroecological, social, and institutional contexts. Meanwhile, the standards on farmer institutions and supporting policies were developed based on findings from prior studies that highlight the critical role of institutions and policy frameworks in advancing sustainability, with selected attributes that have the greatest influence on improving the rice cultivation sustainability index. Accordingly, this platform functions not only as a practical reference for farmers in implementing sustainable rice cultivation practices, but also as an analytical instrument for government agencies to assess, monitor, and enhance the sustainability performance of the rice sector in a more targeted and measurable manner.

2.3.1 Indonesia’s Sustainable Rice Cultivation Standards

Table 2. Themes and Requirements of the Indonesia’s Sustainable Rice Cultivation Standards

Farm Management	Preplanting	Water Usage	Nutrient Management
1. Crop calendar 2. Record keeping 3. Training	4. Heavy metals 5. Soil salinity 6. Land conversion and biodiversity 7. Invasive species 8. Leveling 9. Pure seed quality	10. Water management 11. Irrigation systems at the community level 12. Inbound water quality 13. Groundwater extraction 14. Drainage	15. Nutrient management (organic and/or inorganic) 16. Organic fertilizer choice 17. Inorganic fertilizer choice
Pengelolaan Hama Terpadu	Panen dan Pasca Panen	Kesehatan dan Keselamatan	Hak Buruh
18.1 Weed Management 18.2 Insect Management 18.3 Disease Management	19. Timing of harvest 20. Harvesting equipment 21. Drying Time 22. Drying Techniques 23. Rice storage	26. Safety instructions 27. Tools and equipment 28. Training of pesticide applicators	35. Child labor 36. Hazardous work 37. Education 38. Forced labor 39. Discrimination

18.4 Mollusk Management 18.5 Rodent Management 18.6 Bird Management	24.Rice stubble 25.Rice Straw	29.Personal protective equipment (PPE) 30.Washing and changing 31.Applicator restrictions 32.Re-entry time 33.Pesticides and chemicals storage 34.Pesticide disposal	40.Freedom of association 41.Wages
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The Indonesian Sustainable Rice Cultivation Standards (Table 2), which are adopted from the SRP Standard for Sustainable Rice Cultivation (Version 2.2), have been updated and modified to reflect Indonesia's local context. Of the total 41 requirements in the standard, the following section presents an analytical overview of elements that represent either newly introduced aspects or modifications.

1. Farm Management

Based on the analysis, among the three requirements under the farm management theme, record keeping is the only element that requires modification from the global SRP standard. This update focuses on intermediate data, including (i) fertilisers and plant growth regulators that are produced and applied independently by farmers, as well as soil conditioners that are similarly produced and used; and (ii) natural pesticides that are produced and applied independently. Both points highlight the importance of recording, not only purchased inputs but also the input materials produced independently by farmers. This update is based on SNI 8969:2021 concerning Indonesian *Good Agricultural Practices* (IndoGAP).

2. Pre-planting

The requirements of **soil salinity** on the Indonesian Sustainable Rice Cultivation Standard refer to national technical guidelines, namely, farmers are required to identify the risk of soil and irrigation water salinity through direct measurement or land suitability maps. The ideal salinity of land for rice cultivation is below 2 dS/m (without limiting factors), while land with salinity levels between 2–4 dS/m is classified as having moderate constraints.

On the aspect of land **conversion and biodiversity**, the Indonesian standard introduces additional elements reflecting national regulatory priorities. These include the obligation to protect Sustainable Food Agricultural Land (*Lahan Pertanian Pangan Berkelanjutan*—LP2B) in accordance with Undang-Undang No. 41 of 2009, as well as the requirement for the government to provide replacement land when land-use change occurs in areas designated under spatial planning regulations (RTRW). While the global SRP standard emphasises the protection of Key Biodiversity Areas, Ramsar Sites, and primary and secondary forests, the Indonesian context presents a distinct challenge, namely, rice fields located outside formally protected areas remain highly vulnerable to conversion.

Although Indonesia has 7,174,341 hectares of rice fields, not all of them have received strong legal protection. Only around 4.5 million hectares have been formally designated as LP2B (Land Use Areas for Agricultural Land). The main challenge in maintaining the sustainability of rice fields relates to licensing as stipulated in

Undang-Undang No. 41 of 2009 concerning the Protection of Sustainable Food Agricultural Land, where the authority to grant conversion permits rests with local governments (regents/mayors), not the central government. Furthermore, competing land demands for infrastructure and investment further threaten the sustainability of rice fields. In response, the Indonesian Sustainable Rice Cultivation Standard strengthens land conversion criteria by reaffirming the obligation to provide replacement land when conversion is unavoidable and by promoting the protection of local ecosystems through the maintenance of natural enemy habitats, field boundaries, and non-cultivated areas. These adjustments enhance the relevance of the standard to Indonesia's specific conditions while remaining consistent with global environmental protection principles.

3. Water Management

For a **flood-prone irrigation production system**, the Indonesian standard completes the requirement of the SRP standard, such as in the steps to increase water use efficiency. Additional requirements include, (i) regulating water depth and duration according to crop growth stages under normal water supply conditions, as well as implementing rotational irrigation under limited water availability, and (ii) conducting at least one controlled drying period (i.e. drainage that can be done at the 30-40 days after planting (before reaching maximum tillering)) for 5-7 days to suppress the emergence of unproductive tillers, if possible. This technique can be done in the rainy season or the dry season. The standard also emphasises farmers' understanding of when rice plants need water, water management techniques based on soil type, and things that need to be done when there are many weeds

For **non-flood-prone irrigation systems**, the innovation lies in strengthening farmers' knowledge of critical water management principles, including the timing of water application according to crop needs, soil-based water management techniques, and adaptive measures for weed control. These refinements aim to improve water efficiency while maintaining productivity across diverse irrigation conditions.

4. Nutrition Management

Based on the analysis, innovations in **nutrient management (organic and/or inorganic)** are primarily reflected in strengthened requirements for efficiency and monitoring. The Indonesian Sustainable Rice Cultivation Standard places greater emphasis on systematic nutrient monitoring and on management practices that enhance soil fertility through natural processes. In addition, the standard introduces the cultivation of refugia plants as part of nutrient and ecosystem management, an element not explicitly addressed in the global SRP standard.

In terms of the **selection and application of organic fertilisers**, the Indonesian standard highlights the importance of farmers' understanding of appropriate timing and application methods. This is crucial because these standards aim to demonstrate not only why farmers choose to use organic fertilisers but also the importance of increasing farmer knowledge regarding the proper timing and application methods.

5. Integrated Pest Management

The analysis indicates that requirements related to **weed control, disease management, mollusc control, rodent management, and bird management** largely align with global standards, while incorporating additional elements that reflect local farming practices. These additions mainly focus on preventive control

measures, which are commonly applied by Indonesian farmers and are considered critical for reducing pest and disease risks in rice cultivation.

6. Harvest and Post-Harvest

Based on the analysis, the requirements for **harvest time** in the global context includes visual indicators of rice grains, specifically the criteria that 80-85% of the rice grains have turned yellow and the grain moisture content thresholds of 21% and 24%. At this point, it is important to replace and adapt to the context of local farmer habits and technical guidelines from government regulations, namely the appearance of the color of the rice grains between 90% and 95% yellow or golden yellow, and the optimum harvest age is achieved after the grain moisture content reaches 22-23% in the dry season, and between 24-26% in the rainy season.

Concerning **drying techniques**, the global standard sets a maximum drying temperature of 43°C for flatbed batch dryers. However, Indonesian regulations and the average Indonesian farmer commonly apply drying temperatures of up to 45°C. Accordingly, the Indonesian standard adopts a maximum drying temperature of 45°C to better reflect local conditions.

In relation to **straw management**, the global standard assigns full scores when straw is not burned and is either used as animal feed or composted and returned to the field. The Indonesian standard expands this criterion by including the option of selling straw for animal feed or composting, recognising that straw is often exchanged or utilised through informal arrangements within local farming systems. This is because the "selling" context could potentially occur for Indonesian farmers, even though the majority of farmers would prefer to provide it for free, especially to livestock breeders for their livestock feed.

7. Health and Safety

The analysis indicates the need to strengthen requirements related to **safety instructions and first aid**. Farmers are not only required to receive occupational safety guidance, have access to first aid kits near work areas, and know how to contact health services, but are also expected to possess basic skills in providing initial treatment in the event of work related accidents.

In terms of **washing and changing facilities**, especially after pesticide application, the Indonesian standard requires the availability of designated facilities separate from household areas, equipped with clean water, soap, and appropriate towels. This requirement is consistent with the Regulation of the Minister of Manpower of the Republic of Indonesia No. 3 of 1986 on Occupational Safety and Health in Workplaces Handling Pesticides, particularly Article 15.

Regarding **limitations on pesticide applicators**, the standard introduces stricter provisions by specifying maximum exposure limits of 5 hours per day and 20 hours per week, in line with national regulations. This provision is crucial to ensure the safety of farmers and workers, as restrictions cannot be applied solely to vulnerable groups such as pregnant women, children under 18, or individuals with a history of respiratory illness. This tightening also aims to protect farmers' long-term health.

8. Labor Rights

Based on the analysis, this context aligns with Indonesian labour law. The working hour limit for labourers in Indonesia is 7 hours/day for 6 working days or 8 hours/day for 5 working days, with additional attention given to regulations governing the

involvement of children in agricultural work, particularly in relation to hazardous conditions. In the agricultural context, this includes consideration of extreme environmental exposure, such as prolonged work under direct sunlight, which may increase the risk of heat related illness or dehydration among young workers.

In more detail, a comparison between the global SRP Standard (Version 2.2) and the Indonesian Sustainable Rice Cultivation Standard is presented in Table 3.

Table 3. Comparison between the SRP Standards for Sustainable Rice Cultivation v2.2 and the Indonesian SRP for Sustainable Rice Cultivation Standards

No	SRP Standard V2.2				Indonesian Sustainable Rice Cultivation Standards			
	Impact	Requirement	Level(s) of compliance	Point	Impact	Requirement	Level(s) of compliance	Point
	Farm Management							
1	• Profitability • Productivity	CROP CALENDAR A written crop calendar is developed in advance for each cropping season. If needed, it is updated to adapt to changing circumstances (e.g., weather, pest pressures). A crop calendar shows the expected dates of field activities, and the actual dates of implementation of those activities. Activities can include (if applicable): 1. Timing of major operations (e.g., land preparation, planting, harvest). 2. Timing of major fertilization (e.g., split plan) and water management activities (e.g., irrigation). 3. Timing of evaluating pest threat and damage levels (i.e., scouting). 4. Timing of	a) Crop calendar includes the expected and actual dates for all four activities (if applicable).	3	• Profitability • Productivity	CROP CALENDAR A written crop calendar is developed in advance for each cropping season. If needed, it is updated to adapt to changing circumstances (e.g., weather, pest pressures). A crop calendar shows the expected dates of field activities, and the actual dates of implementation of those activities. Activities can include (if applicable): 1. Timing of major operations (e.g., land preparation, planting, harvest). 2. Timing of major fertilization (e.g., split plan) and water management activities (e.g., irrigation). 3. Timing of evaluating pest threat and damage levels (i.e., scouting). 4. Timing of	a) Crop calendar includes the expected and actual dates for all four activities (if applicable).	3
			b) Crop calendar includes the expected and actual dates for activities 1 and 2 (if applicable) only.	2			b) Crop calendar includes the expected and actual dates for activities 1 and 2 (if applicable) only.	2
			c) Crop calendar includes the expected and actual dates for activity 1 only. <i>*Minimum Requirements</i>	1*			c) Crop calendar includes the expected and actual dates for activity 1 only. <i>*Minimum Requirements</i>	1*
			d) There is no crop calendar, or it is otherwise incomplete.	0			d) There is no crop calendar, or it is otherwise incomplete.	0

		labor and/or contracted services (e.g., machines).				labor and/or contracted services (e.g., machines).		
2	• Profitability • Productivity	RECORD KEEPING Records are kept for each cropping season. These records shall at least reflect basic data level (easily collected by farmers) and should include data at the intermediate level (which may require collection by external partners). Basic data (if applicable) in local units: 1. Field size 2. Seed variety 3. Input costs (land, labor, seed, agrochemicals, water, services) 4. Number of irrigations during and after land preparation 5. Fertilizer applied (number of times applied, amount applied, synthetic or organic) 6. Pesticide applied (number of times applied) 7. Amount of paddy harvested 8. Sales price of paddy. Intermediate data (if applicable): 1. Same as	a) Records are kept of applicable data at the intermediate level. b) Records are kept of applicable data using a mix of basic and intermediate data levels c) Records are kept of applicable data at the basic data level. <i>*Minimum Requirements</i> d) No records are kept.	3 2 1* 0	• Profitability • Productivity	RECORD KEEPING Records are kept for each cropping season. These records shall at least reflect basic data level (easily collected by farmers) and should include data at the intermediate level (which may require collection by external partners). Basic data (if applicable) in local units: 1. Field size 2. Seed variety 3. Input costs (land, labor, seed, agrochemicals, water, services) 4. Number of irrigations during and after land preparation 5. Fertilizer applied (number of times applied, amount applied, synthetic or organic) 6. Pesticide applied (number of times applied) 7. Amount of paddy harvested 8. Sales price of paddy. Intermediate data (if applicable): 1. Same as	a) Records are kept of applicable data at the intermediate level. b) Records are kept of applicable data using a mix of basic and intermediate data levels c) Records are kept of applicable data at the basic data level. <i>*Minimum Requirements</i> d) Records are kept of applicable data at the intermediate level.	3 2 1* 0

		above but local units are converted into international units 2. More precise data to enable quantitative analysis of sustainable practices applied, such as on: • Water management (e.g., irrigation water volume, total rainfall, number of days of flooding, number and duration of dry-down events) • Nutrient management (e.g. N and P analysis of fertilizer applied, amount of organic material incorporated into soil) • Pest management (e.g., pest damage data, record of pest control products applied) • And other topics For specific details on basic and intermediate data level measuring units please refer to the SRP Performance Indicators.				above but local units are converted into international units 2. More precise data to enable quantitative analysis of sustainable practices applied, such as on: • Water management (e.g., irrigation water volume, total rainfall, number of days of flooding, number and duration of dry-down events) • Nutrient management (e.g. N and P analysis of applied fertilizers, including fertilizers and growth regulators that are produced and used independently, records are made of the raw materials used., And For soil conditioners that are produced and used independently, the raw materials used are recorded. The amount of organic matter added to the soil. ● Natural pesticides that are produced and used independently are recorded using the raw materials used.		
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	• Women's empowerment	demonstrates that relevant content is applied.	demonstrates that content is applied.		• Women's empowerment	demonstrates that relevant content is applied.	demonstrates that content is applied.	
			c) Farmer training, information, and support needs were assessed; and farmers received needed training. <i>*Minimum Requirements</i>	1*			c) Farmer training, information, and support needs were assessed; and farmers received needed training. <i>*Minimum Requirements</i>	1*
			d) Farmer training, information, and support needs not be assessed.	0			d) Farmer training, information, and support needs not be assessed.	0
	Initial Preparation							
4	Food safety	HEAVY METALS Milled grains must be safe from heavy metals. Milled grains are safe if there are no detectable levels of heavy metals in the milled grains as determined by international food safety authorities, or by national laws or regulations (whichever is more stringent). The risk of soil contamination from heavy	a) There is evidence (no more than 5 years old) that milled grains are safe from heavy metals.	3	Food safety	HEAVY METALS Milled grains must be safe from heavy metals. Milled grains are safe if there are no detectable levels of heavy metals in the milled grains as determined by international food safety authorities, or by national laws or regulations (whichever is more stringent). The risk of soil contamination from heavy	a) There is evidence (no more than 5 years old) that milled grains are safe from heavy metals.	3
			b) There is evidence (not more than 5 years old) (through group soil analysis or a reliable external source) that the levels of heavy metals in the group or area's soils do not exceed background levels.	3			b) There is evidence (not more than 5 years old) (through group soil analysis or a reliable external source) that the levels of heavy metals in the group or area's soils do not exceed background levels.	3
			c) Group risk assessment (not more	2*			c) Group risk assessment (not more	2*

		metals such as arsenic, cadmium, chromium, mercury and lead has been analyzed. If there is (risk of) soil contamination due to heavy metals:	than 5 years old) does not indicate a risk of heavy metal contamination. (see Risk Assessment Checklist) *Minimum Requirements			metals such as arsenic, cadmium, chromium, mercury and lead has been analyzed. If there is (risk of) soil contamination due to heavy metals:	than 5 years old) does not indicate a risk of heavy metal contamination. (see Risk Assessment Checklist) *Minimum Requirements	
		1. Group level soil analysis is conducted in contaminated areas at least every 5 years. 2. Soil remediation techniques are applied.	d) In the event of a risk, a group-level soil analysis is carried out at least once every 5 years; if soil contamination due to heavy metals occurs, soil restoration techniques are carried out.	1		1. Group level soil analysis is conducted in contaminated areas at least every 5 years. 2. Soil remediation techniques are applied.	d) In the event of a risk, a group-level soil analysis is carried out at least once every 5 years; if soil contamination due to heavy metals occurs, soil restoration techniques are carried out.	1
			e) Nothing is true.	0			e) Nothing is true.	0
5	• Profitability • Productivity • Water use • efficiency	SOIL SALINITY Soil salinity risks have been assessed. Soil salinity is monitored when it is at acceptable levels (i.e., not exceeding 3 dS/cm for soil or 5 g/L for water), and effectively managed when it is considered high. If there is a risk of soil salinity,	a) There is documented evidence, not more than 3 years old (according to any method in footnote 6), that: - There is no (risk of) soil salinity in the group or area, or - Soil salinity in the group or area is at an acceptable level (i.e., does not exceed	3	• Profitability • Productivity • Water use • efficiency	SOIL SALINITY Farmers identify risks of soil and irrigation water salinity through measurements or land suitability maps. Ideal land has a salinity of <2 dS/m (without limiting factors), while land with limiting factors is at 2–4 dS/m.	a) There is documented evidence, not older than 3 years, that explains that: • There is no (risk of) soil salinity in the group or region, or • Soil salinity in the group or region is at an acceptable level (i.e., does not exceed 2 dS/m	3

		mitigation/adaptation measures include: ● Selection of varieties that are tolerant to salinity. ● Monitoring salinity in field water. Salinity management through maintaining water pressure in the field. ● Management of inflow/outflow in terms of quantity and time to minimize salinity. ● Expert advice and next steps.	3 dS/cm for soil or 5 g/L for water).			Farmers carry out routine monitoring with operational limits: ● Safe: < 2 dS/m ● Managed: 2–3 dS/m ● Height (special handling required): > 3 dS/m (max. national tolerance 4 dS/m) ● Irrigation water should be kept at a level not exceeding 5 g/L (based on Global SRP standards).	for land without limiting factors and does not exceed 4 dS/m for land with limiting factors or 5 g/L for water).	
			b) There is (a risk of) soil salinity, and the mitigation/adaptation measures taken are effective (e.g., the yield gap compared to areas not affected by soil salinity is narrowing).	2			b) There is (a risk of) soil salinity, and the mitigation/adaptation measures taken are effective (e.g., the yield gap compared to areas not affected by soil salinity is narrowing).	2
			c) There is a risk of soil salinity, and mitigation/adaptation measures are taken. <i>*Minimum Requirements</i>	1*			c) There is a risk of soil salinity, and mitigation/adaptation measures are taken. <i>*Minimum Requirements</i>	1*
			d) Nothing is true.	0			d) Nothing is true.	0
						If there is a risk of soil salinity, for land with salinity ≥ 2 dS/m, farmers implement: ● salinity tolerant rice varieties, ● water management (water depth, flushing, inflow/outflow), ● drainage improvement and addition of organic materials. ● If salinity > 3 dS/m or continues to increase, farmers are advised to consult with extension workers or experts for corrective action.		

						Source: Technical Instructions for Land Suitability Assessment Guidelines for Strategic Agricultural Commodities, Agricultural Research and Development Agency, Ministry of Agriculture - Semi-Detail Level, Scale 1:50,000 (2016)		
6	• Biodiversity • Greenhouse gas emissions	LAND CONVERSION AND BIODIVERSITY Rice planting after 2009 did not result in any conversion within (proposed) protected areas, Key Biodiversity Areas™, Ramsar Sites (wetlands), primary forests, secondary (native) forests, or other natural ecosystems and land types such as grasslands. At the field level, farmers maintain and/or enhance applicable site-specific biodiversity elements: • Habitat/protection in the field • Land boundaries • Not a planting area • Plant species that serve as hosts for	a) There was no land conversion in the described area after 2009, and agricultural practices maintain and/or enhance biodiversity and ecosystem services at the specified location. b) There was no land conversion in the areas described after 2009, and agricultural practices maintain and/or enhance biodiversity at each site.	3 2	• Biodiversity • Greenhouse gas emissions	LAND CONVERSION AND BIODIVERSITY Rice planting after 2009 did not result in any conversion within (proposed) protected areas, Key Biodiversity Areas™, Ramsar Sites (wetlands), primary forests, secondary (native) forests, or other natural ecosystems and land types such as sustainable food agricultural land (LP2B) according to regulations UU No. 41/2009. If there is a change in land function on land designated in the RTRW, then it is mandatory to be able to replace the land that has changed function with other new land.	a) There was no land conversion in the area described after 2009, or there has been a change in land function but the government/authorities have replaced it with a new planting area, and there are agricultural practices that maintain and/or enhance biodiversity and ecosystem services in certain locations. b) There was no land conversion in the area described after 2009, or there has been a change in land function but the government/authorities have replaced it	3 2

		beneficial natural enemies				At the field level, farmers maintain and/or enhance applicable site-specific biodiversity elements:	with a new planting area, and there are agricultural practices that maintain and/or enhance biodiversity in each location.	
		- Trees (replanted if they have been cut down) - Agricultural practices maintain and/or enhance ecosystem services.	c) There was no land conversion in the area described after 2009. Minimum Requirements	1*		- Habitat/protection in the field - Land boundaries - Not a planting area - Plant species that serve as hosts for beneficial natural enemies - Trees (replanted if they have been cut down) - Agricultural practices maintain and/or enhance ecosystem services.	c) There was no land conversion in the area described after 2009. Minimum Requirements	1*
			d) The described area conversion occurred after 2009.	0			d) The described area conversion occurred after 2009.	0
7	Biodiversity	INVASIVE SPECIES No invasive species (e.g., water hyacinth, golden apple snail) have been intentionally introduced by farmers or groups since 2009. Where invasive species are present, effective management	a) No invasive species have been intentionally introduced by farmers or groups since 2009. *Minimum Requirements	3*	Biodiversity	INVASIVE SPECIES No invasive species (e.g., water hyacinth, golden apple snail) have been intentionally introduced by farmers or groups since 2009. Where invasive species are present, effective management	a) No invasive species have been intentionally introduced by farmers or groups since 2009. *Minimum Requirements	3*
			b) Invasive species were intentionally introduced by farmers/groups since	1			b) Invasive species were intentionally introduced by farmers/groups since	1

		measures are in place to protect native species.	2009; and are being managed effectively.			measures are in place to protect native species.	2009; and are being managed effectively.	
			c) Invasive species were introduced intentionally by farmers or groups since 2009; and are not managed efficiently.	0		Steps for prevention and management of invasive species: ●Prevention: Conduct regular monitoring to detect the presence of invasive species and avoid introducing foreign species into the rice field ecosystem without thorough study. ●Control: If an invasive species has already spread, take control measures such as: There are three ways to control invasive species, as follows: 1. Mechanical methods (such as manual picking) ○Manual collection of golden snails and water hyacinth. ○Use of nets or barriers to prevent the spread of tilapia.	c) Invasive species were introduced intentionally by farmers or groups since 2009; and are not managed efficiently.	0

						2. Biological Control Methods (such as natural predators) ○ Introduction of natural predators to control populations of invasive species. 3. Technical culture ○ Cultivating plants/varieties that are resistant to invasive species ○ Breaking the chain of life cycles, for example: Crop rotation and water management. ○ Pay attention to planting distance, for example: Jajar Legowo planting model <i>Source: e-learning SRP, PbN</i>		
8	• Profitability • Productivity • Water use efficiency • Biodiversity	LAVELING Instructions: Identify the system that applies to most cultivated land. Provide a response to that system: • Flat or terraced land	For flat land or terraces: • The land has been leveled to a slope of 1/1000 of the plot slope.	3	• Profitability • Productivity • Water use efficiency • Biodiversity	LAVELING Instructions: Identify the system that applies to most cultivated land. Provide a response to that system: • Flat or terraced land	For flat land or terraces: • The land has been leveled to a slope of 1/1000 of the plot slope.	3

		● Sloping land without terracing ● Dry land (without irrigation) Rice planted on flat or terraced land: ● If laser leveling is used, the land or terrace is leveled to a slope of 1/1000 in the plot. ● If laser leveling is not used, visual inspection ensures that the field has no high or low spots when filled with water and that the crop stands are uniform in height (i.e., not wavy). Rice planted on sloping land without terracing: ● Physical soil conservation practices are used (e.g., contour farming, installation of erosion barriers). ● Cultural soil conservation practices are used (e.g., planting non-invasive ground covers, mulching).	● The land has been leveled. <i>*Minimum Requirements</i>	2*		● Sloping land without terracing ● Dry land (without irrigation) Rice planted on flat or terraced land: ● If laser leveling is used, the land or terrace is leveled to a slope of 1/1000 in the plot. ● If laser leveling is not used, visual inspection ensures that the field has no high or low spots when filled with water and that the crop stands are uniform in height (i.e., not wavy). Rice planted on sloping land without terracing: ● Physical soil conservation practices are used (e.g., contour farming, installation of erosion barriers). ● Cultural soil conservation practices are used (e.g., planting non-invasive ground covers, mulching).	● The land has been leveled. <i>*Minimum Requirements</i>	2*
			● The land has not been leveled.	0			● The land has not been leveled.	0
			OR For sloping land without terraces:	3			OR For sloping land without terraces:	3
			● Physical and cultural soil conservation practices are used.				● Physical and cultural soil conservation practices are used.	
			● Only physical soil conservation practices are used. <i>*Minimum Requirements</i>	2*			● Only physical soil conservation practices are used. <i>*Minimum Requirements</i>	2*
			● No soil conservation practices are used.	0			● No soil conservation practices are used.	0
			OR For dry land (without irrigation):	3			OR For dry land (without irrigation):	3
			● No leveling is required, but in the case of sloping land, soil conservation practices are used both physically (e.g., contour farming) and culturally (e.g., mulching).				● No leveling is required, but in the case of sloping land, soil conservation practices are used both physically (e.g., contour farming) and culturally (e.g., mulching).	

		Rice planted on dry land (not irrigated): Does not require leveling.				Rice planted on dry land (not irrigated): Does not require leveling.		
9	• Profitability • Productivity	PURE SEED QUALITY Pure, high-quality seeds are free from weeds, pests, and diseases. Certified seeds must comply with applicable national laws/regulations or the regulations of the target market. Quality controlled (non-certified) seeds must meet criteria including varietal purity, weed seed freedom, germination testing, safe storage, fungal control, etc. Self-stored seeds with quality control must meet criteria including safe storage, roguing (removal of all types or mixtures of plants) in the field before harvest, etc. The practice of self-storing seeds should not exceed 3 harvest cycles.	a) Farmers use certified seeds that are suitable for local conditions and meet the criteria for certified seeds. b) Farmers use seeds with quality control that are appropriate to local conditions and meet the criteria for seeds with quality control. c) Farmers use their own stored seeds that meet the criteria for their own stored seeds with quality control for a maximum of 3 planting cycles. <i>*Minimum Requirements</i> d) Farmers use: • Uncertified seeds, • Seeds without quality control, • Seeds stored independently	3 3 2* 0	• Profitability • Productivity	PURE SEED QUALITY Pure quality seeds free from weed seeds, pests and diseases. Certified seeds must comply with applicable national laws/regulations or the regulations of the destination market. Quality controlled (non-certified) seeds must meet criteria including varietal purity, weed seed freedom, germination testing, safe storage, fungal control, etc. Self-stored seeds with quality control must meet criteria including safe storage, roguing (removal of all types or mixtures of plants) in the field before harvest, etc. The practice of self-storing seeds should not exceed 3 harvest cycles.	a) Farmers use certified seeds that are suitable for local conditions and meet the criteria for certified seeds. b) Farmers use seeds with quality control that are appropriate to local conditions and meet the criteria for seeds with quality control. c) Farmers use their own stored seeds that meet the criteria for their own stored seeds with quality control for a maximum of 3 planting cycles. <i>*Minimum Requirements</i> d) Farmers use: • Uncertified seeds, • Seeds without quality control, • Seeds stored independently	3 3 2* 0

			without quality control, or ●Seeds stored independently for more than 3 harvest cycles.				without quality control, or ●Seeds stored independently for more than 3 harvest cycles.	
	Water Usage							
10	● Profitability ● Productivity ● Water use efficiency ● Greenhouse gas emissions	WATER MANAGEMENT Instructions: Identify the local production system that is applicable to the majority of cultivated land. Answer only the requirements that apply to that system: - Rainfed production system (10.1) - Irrigated production system—flood-prone (10.2) - Irrigated production system—not flood-prone (10.3)			● Profitability ● Productivity ● Water use efficiency ● Greenhouse gas emissions	WATER MANAGEMENT Instructions: Identify the local production system that is applicable to the majority of cultivated land. Answer only the requirements that apply to that system: - Rainfed production system (10.1) - Irrigated production system—flood-prone (10.2) - Irrigated production system—not flood-prone (10.3)		
10.1	● Profitability ● Productivity ● Water use efficiency ● Greenhouse gas emissions	RAIN-FEEDING PRODUCTION SYSTEM Steps taken to improve water use efficiency include: 1. Planting at the right time and according to the local climate. 2. Effective direct seeding or water puddling, and strong binding. 3. Use of varieties suited to the local climate (e.g., short or medium duration varieties). 4. Provision of on-site rainwater harvesting and storage for	a) Farmers apply these four steps. b) Farmers apply steps 1, 2, and 3 only. c) Farmers apply steps 1 and 2 only. <i>*Minimum Requirements</i> d) None of the above.	3 0	● Profitability ● Productivity ● Water use efficiency ● Greenhouse gas emissions	RAIN-FEEDING PRODUCTION SYSTEM Steps taken to improve water use efficiency include: 1. Planting at the right time and according to the local climate. 2. Effective direct seeding or water puddling, and strong binding. 3. Use of varieties suited to the local climate (e.g., short or medium duration varieties).	a) Farmers apply these four steps. b) Farmers apply steps 1, 2, and 3 only. c) Farmers apply steps 1 and 2 only. <i>*Minimum Requirements</i> d) None of the above.	3 0

		supplemental irrigation.				4. Provision of on-site rainwater harvesting and storage for supplemental irrigation.		
10.2	• Profitability • Productivity • Water use efficiency • Greenhouse gas emissions	IRRIGATION PRODUCTION SYSTEM - FLOOD PRONE Various steps have been taken to improve water use efficiency, including: 1. Planting plants on time to avoid submerging plants during flooding. 2. At least one drying event (i.e. mid-season drainage with a 7-day drying/aeration period), if possible. 3. Leveling with provisions for minor drainage conditions. 4. Use of flood-resistant varieties.	a) Farmers implemented action 1, and two additional actions.	3	• Profitability • Productivity • Water use efficiency • Greenhouse gas emissions	IRRIGATION PRODUCTION SYSTEM - FLOOD PRONE Various steps have been taken to improve water use efficiency, including: 1. Planting plants on time to avoid submerging plants during flooding. 2. Water inundation regulation according to plant growth phase, both height and duration (normal water supply conditions) and application of water rotation (below normal water supply conditions) 3. At least one drying event (i.e. drainage) which can be done at the age of 30-40 days after planting (before the maximum number of tillers is reached) for 5-7 days	a) Farmers implemented action 1, and two additional actions.	3
			b) Farmers implement action 1, and one additional action listed.	2			b) Farmers implement action 1, and one additional action listed.	2
			c) Farmers only implement step 1. <i>*Minimum Requirements</i>	1*			c) Farmers only implement step 1. <i>*Minimum Requirements</i>	1*
			d) Nothing is true.	0			d) Nothing is true.	0

						to suppress the emergence of unproductive tillers - if possible. This technique can be done in both the rainy and dry seasons. - Leveling with provisions for minor drainage conditions. - Use of flood-resistant varieties. Need to know: When does rice need water? - When the rice is finished, it is planted in rotation - During the formation of shoots - When pregnant - During discharge-filling - When fertilization is carried out, it helps the decomposition process. - When a pest attack occurs, with types such as mole crickets, crickets and ground caterpillars. Water management techniques		
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						• Clay soil type: 3 days of flooding, water level 4 cm, let the soil dry, 5 days of flooding again. • Sandy soil type: 7 days of flooding, water level 4 cm, let the soil dry, 3-5 days of flooding again. • Type of soil mixed: 5 days of flooding, water level 4 cm, let the soil dry for 5 days, and flood again. If there are a lot of weeds, then AWD should be delayed for 2-3 weeks to help eliminate weeds by waterlogging and to increase herbicide efficacy. <i>Source: Sustainable rice cultivation module (Rikolto and preferred by nature – 2023)</i>		
10.3	• Profitability • Productivity • Water use efficiency • Greenhouse gas emissions	IRRIGATION PRODUCTION SYSTEM - NOT FLOOD-PRONE Various steps have been taken to improve water use efficiency, including:	a) Farmers implement these six actions.	3	• Profitability • Productivity • Water use efficiency • Greenhouse gas emissions	IRRIGATION PRODUCTION SYSTEM - NOT FLOOD-PRONE	a) Farmers implement these six actions.	3
			b) Farmers only apply steps 2, 3, 4, and 6.	2			b) Farmers only apply steps 2, 3, 4, and 6.	2
			c) Farmers only apply steps 2 and	1*			c) Farmers only apply steps 2 and	1*

		1. One time of dry soil cultivation before flooding if the soil cracks. 2. Strong leveling and embankments. 3. Dry sowing, or planting after soil wetting, effective waterlogging, and soil cultivation within a period of 1 week. 4. Wetting and drying alternately. 5. Use of short or medium duration varieties that have the same yield potential as long duration varieties. 6. Stop irrigation at least 10-15 days before harvest.	4. <i>Minimum Requirements</i>			Various steps have been taken to improve water use efficiency, including: 1. One time of dry soil cultivation before flooding if the soil cracks. 2. Strong leveling and embankments. 3. Dry sowing, or planting after soil wetting, effective waterlogging, and soil cultivation within a period of 1 week. 4. Wetting and drying alternately. 5. Use of short or medium-duration varieties that have the same yield potential as long-duration varieties. 6. Stop irrigation at least 10-15 days before harvest. Need to know: When does rice need water? • When the rice is finished, it is planted in rotation • During the formation of shoots • When pregnant	4. <i>Minimum Requirements</i>	
			d) Nothing is true.	0			d) Nothing is true.	0

						● During discharge-filling ● When fertilization is carried out, it helps the decomposition process. ● When a pest attack occurs, with types such as mole crickets, crickets and ground caterpillars. Water management techniques ● Clay soil type: 3 days of flooding, water level 4 cm, let the soil dry, 5 days of flooding again. ● Sandy soil type: 7 days of flooding, water level 4 cm, let the soil dry, 3-5 days of flooding again. ● Type of soil mixed: 5 days of flooding, water level 4 cm, let the soil dry for 5 days, and flood again. If there are a lot of weeds, then AWD should be delayed for 2-3 weeks to help eliminate weeds by waterlogging and to	
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						increase herbicide efficacy. <i>Source: Sustainable rice cultivation module (Rikolto and preferred by nature – 2023)</i>		
11	Water use efficiency	IRRIGATION SYSTEM AT THE COMMUNITY LEVEL Irrigation systems controlled by farmers or farmer groups (supplied from surface water and/or groundwater) meet the following criteria: 1. The command area has sufficient internal canals for supply and drainage. 2. There are no leaks in the embankment. 3. The water gate (if any) works properly. 4. There is stakeholder involvement in decision making in irrigation systems.	a) Farmers produce under rain-fed conditions (without irrigation). b) All four listed criteria are met. c) At least three of the listed criteria are met. <i>*Minimum Requirements</i> d) Two of the listed criteria are met. e) Nothing is true.	There isn't any 3 2* 1 0	Water use efficiency	IRRIGATION SYSTEM AT THE COMMUNITY LEVEL Irrigation systems controlled by farmers or farmer groups (supplied from surface water and/or groundwater) meet the following criteria: 1. The command area has sufficient internal canals for supply and drainage. 2. There are no leaks in the embankment. 3. The water gate (if any) works properly. 4. There is stakeholder involvement in decision making in irrigation systems.	a) Farmers produce under rain-fed conditions (without irrigation). b) All four listed criteria are met. c) At least three of the listed criteria are met. <i>*Minimum Requirements</i> d) Two of the listed criteria are met. e) Nothing is true.	There isn't any 3 2* 1 0

12	• Water use efficiency • Food safety	INPUT WATER QUALITY Incoming water is obtained from clean sources free from biological contamination, salts, and heavy metals. If there is a risk of contaminated water, remediation techniques include, for example, installing a filtration system or selecting an alternative type, if available.	a) Farmers produce under rain-fed conditions (without irrigation).	There isn't any	• Water use efficiency • Food safety	INPUT WATER QUALITY Incoming water is obtained from clean sources free from biological contamination, salts, and heavy metals. If there is a risk of contaminated water, remediation techniques include, for example, installing a filtration system or selecting an alternative type, if available.	a) Farmers produce under rain-fed conditions (without irrigation).	There isn't any
			b) There is documented evidence, not more than 3 years old (as per any method in footnote 10), that the incoming water is obtained from a clean source.	3			b) There is documented evidence, not more than 3 years old (as per any method in footnote 10), that the incoming water is obtained from a clean source.	3
			c) Same as b, but documented evidence is more than 3 years old.	2			c) Same as b, but documented evidence is more than 3 years old.	2
			d) In the event of (risk of) contaminated water, mitigation measures are taken to reduce the potential impact of contaminated water. <i>*Minimum Requirements</i>	1*			d) In the event of (risk of) contaminated water, mitigation measures are taken to reduce the potential impact of contaminated water. <i>*Minimum Requirements</i>	1*
			e) Nothing is true.	0			e) Nothing is true.	0
13	Water use efficiency	GROUNDWATER EXTRACTION Groundwater extraction is legal and sustainable. Sustainable groundwater	a) Farmers produce under rain-fed conditions (without irrigation).	There isn't any	Water use efficiency	GROUNDWATER EXTRACTION Groundwater extraction is legal and sustainable. Sustainable groundwater	a) Farmers produce under rain-fed conditions (without irrigation).	There isn't any
			b) Groundwater extraction complies	3			b) Groundwater extraction complies	3

		biodiversity or the surrounding environment and waterways.	d) Surface (side) drainage is delayed after surface application of agricultural chemicals for at least 4 days for fertilizers and 14 days for pesticides, or according to the product label. <i>*Minimum Requirements</i>	2*		biodiversity or the surrounding environment and waterways.	d) Surface (side) drainage is delayed after surface application of agricultural chemicals for at least 4 days for fertilizers and 14 days for pesticides, or according to the product label. <i>*Minimum Requirements</i>	2*
			e) Surface (lateral) drainage was delayed after surface application of agricultural chemicals, but was shorter-lived due to the unexpected need to protect crops.	1			e) Surface (lateral) drainage was delayed after surface application of agricultural chemicals, but was shorter-lived due to the unexpected need to protect crops.	1
			f) None of them are true.	0			f) None of them are true.	0
	Nutrition Management							
15	• Profitability • Productivity • Nutrient use efficiency • Biodiversity	NUTRITION MANAGEMENT (INORGANIC AND/OR ORGANIC) Efficient and site-specific nutrient management is	a) Farmers comply with all elements listed in the requirements. b) Farmers comply with one of the two elements listed.	6 4*	• Profitability • Productivity • Nutrient use efficiency • Biodiversity	NUTRITION MANAGEMENT (INORGANIC AND/OR ORGANIC) Efficient and site-specific nutrient management is	a) Farmers comply with all elements listed in the requirements. b) Farmers comply with one of the two elements listed.	6 4*

	• Greenhouse gas emissions	implemented and documented.	<i>*Minimum Requirements</i>		• Greenhouse gas emissions	implemented and documented.	<i>*Minimum Requirements</i>	
		Steps for efficient nutrient management include:	c) Farmers comply with one of the listed elements.	2		Steps for efficient nutrient management include:	c) Farmers comply with one of the listed elements.	2
		1. The timing of fertilizer application (inorganic and/or organic; N, P, and/or K) is adjusted to the needs of the plant, recommendations adapted to local conditions, and product label instructions (if available). 2. The amount of fertilizer (inorganic and/or organic; N, P, and/or K) applied is based on knowledge of soil fertility and expected yields, locally adapted recommendations, and product label instructions (if available). 3. Natural systems of soil fertility enhancement (e.g. crop rotation, mixed cropping, and/or non-invasive cover crops) are used.	d) The farmer did not comply with any of the listed elements.	0		1. Fertilizer application time(inorganic and/or organic; N, P, and/or K) adjusted to plant needs, recommendations tailored to local conditions, and product label instructions (if available). 2. Amount of fertilizer(inorganic and/or organic; N, P, and/or K) applied is based on knowledge of soil fertility and expected yields, locally adapted recommendations, and product label directions (if available). 3. Monitoring, Monitor the condition of rice plants to determine their actual fertilizer needs. If plants are deficient in N, urea and other fertilizers can be added.	d) The farmer did not comply with any of the listed elements.	0

						4. Natural systems for increasing soil fertility (e.g. crop rotation,refugia planting, intercropping (mixed), and/or non-invasive ground cover planting) are used. <i>Source: E-learning, PbN</i>		
16	• Profitability • Productivity • Nutrient use efficiency • Greenhouse Gas emissions	ORGANIC FERTILIZER OPTIONS Organic materials (e.g., animal manure, green manure, mulch, rice straw) are used as fertilizers when conditions are favorable. Favorable conditions include: 1. Can be applied to land that is not flooded, in a composted or decomposed state. 2. There is enough time for it to decompose before the flood occurs. 3. Available locally (approximately 50 km	a) Farmers use organic materials as fertilizer if these three conditions are met.	3	• Profitability • Productivity • Nutrient use efficiency • Greenhouse Gas emissions	ORGANIC FERTILIZER OPTIONS Organic materials (e.g., animal manure, green manure, mulch, rice straw, and various compounds in organic fertilizers) are used as fertilizers when conditions are favorable. Favorable conditions include: 1. Can be applied to land that is not flooded, in a composted or decomposed state. 2. There is enough time for it to decompose before the flood occurs.	a) Farmers use organic materials as fertilizer if these three conditions are met.	3
			b) Farmers use organic matter as fertilizer if conditions 1 and 2 are met, but condition 3 is not met.	2			b) Farmers use organic matter as fertilizer if conditions 1 and 2 are met, but condition 3 is not met.	2
			c) Farmers do not use organic matter as fertilizer because one or more of the listed conditions are not met. <i>*Minimum Requirements</i>	2*			c) Farmers do not use organic matter as fertilizer because one or more of the listed conditions are not met. <i>*Minimum Requirements</i>	2*
			d) Farmers do not use organic materials as fertilizer even though farmers know the	1			d) Farmers do not use organic materials as fertilizer even though farmers know the	1

		radius) and in sufficient quantities.	conditions and all the conditions are there.			3. Available locally (approximately 50 km radius) and in sufficient quantities.	conditions and all the conditions are there.	
			e) Farmers add organic matter to the flooded soil.	0		Important to know: The right time to apply organic fertilizer: ● For Solid Fertilizer (Manure/Compost): It is best to apply it about two weeks before planting, the fertilizer has decomposed, the soil is rich in nutrients and is already available when the rice plants are planted. ● For Liquid Fertilizer (POC): The ideal time is in the morning (06.00-09.00) or afternoon (16.00-18.00), when the leaf stomata are wide open, the air temperature is not too hot and the plants are not stressed by sunlight. The correct way to apply organic fertilizer:	e) Farmers add organic matter to the flooded soil.	0

						Solid Fertilizer: ● Spread: Spread evenly on the surface of the land/rice fields. ● Placed in Holes: Fertilizer is buried in holes near the roots of the plant or between the planting distances and then covered with soil. ● Mixed with Soil: Mixed into the soil mixture, or applied during land preparation before planting. Liquid Fertilizer: ● Foliar Spraying: Mix POC with water according to the measurements, then spray evenly onto the underside of the leaves (this part absorbs nutrients more quickly). ● Root Watering: Dissolve POC with water and pour it directly onto the soil around the rice roots. <i>Source: E-learning, PbN</i>		
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17	• Profitability • Productivity • Nutrient use efficiency • Greenhouse gas emissions	INORGANIC FERTILIZER OPTIONS Inorganic fertilizers can only be used if they are registered and come from a non-counterfeit source.	a) There is no use of inorganic fertilizers.	3	• Profitability • Productivity • Nutrient use efficiency • Greenhouse gas emissions	INORGANIC FERTILIZER OPTIONS Inorganic fertilizers can only be used if they are registered and come from a non-counterfeit source.	a) There is no use of inorganic fertilizers.	3
			b) Farmers use registered inorganic fertilizers that come from non-counterfeit sources. <i>*Minimum Requirements</i>	3*			b) Farmers use registered inorganic fertilizers that come from non-counterfeit sources. <i>*Minimum Requirements</i>	3*
			c) Farmers use inorganic fertilizers that are not registered and/or come from fake sources.	0			c) Farmers use inorganic fertilizers that are not registered and/or come from fake sources.	0
	Integrated Pest Management							
		INTRODUCTION TO INTEGRATED PEST MANAGEMENT (IPM) The principles of IPM include: Evaluate pest threats and damage levels periodically (reconnaissance). • Using action thresholds recommended by local government extension experts. • Evaluate all available pest control methods. • Select pest control methods that maximize human safety, minimize environmental impacts, are economically justifiable, and prevent food safety risks for all crops. IPM combines preventive and curative pest control methods. Preventive pest control methods help manage conditions to				INTRODUCTION TO INTEGRATED PEST CONTROL (IPM) The principles of IPM include: Evaluate pest threats and damage levels periodically (reconnaissance). • Using action thresholds recommended by local government extension experts. • Evaluate all available pest control methods. • Select pest control methods that maximize human safety, minimize environmental impacts, are economically justifiable, and prevent food safety risks for all crops. IPM combines preventive and curative pest control methods. Preventive pest control methods help manage conditions to		

		prevent pest buildup and can include: resistant varieties, crop rotation, intercropping, sanitation, ecological engineering, and others. Curative pest control methods help address pest buildup that has already occurred and can include: mechanical control (e.g., hand weeding), biological control (e.g., biological control agents), and chemical control (e.g., synthetic pesticides). The SRP standard aims to encourage ongoing preventive pest control measures and timely curative pest control measures if preventive measures are ineffective on their own. Pesticides should only be used if and when action thresholds are exceeded and the severity of the pest is expected to cause significant damage or loss. Actions should be as targeted as possible to avoid unintended impacts. Measured action can contribute to cost reductions for farmers. Requirements 18.1–18.6 list general preventive pest control methods and conditions for appropriate pesticide use for six types of pests.				prevent pest buildup and can include: resistant varieties, crop rotation, intercropping, sanitation, ecological engineering, and others. Curative pest control methods help address pest buildup that has already occurred and can include: mechanical control (e.g., hand weeding), biological control (e.g., biological control agents), and chemical control (e.g., synthetic pesticides). The SRP standard aims to encourage ongoing preventive pest control measures and timely curative pest control measures if preventive measures are ineffective on their own. Pesticides should only be used if and when action thresholds are exceeded and the severity of the pest is expected to cause significant damage or loss. Actions should be as targeted as possible to avoid unintended impacts. Measured action can contribute to cost reductions for farmers. Requirements 18.1–18.6 list general preventive pest control methods and conditions for appropriate pesticide use for six types of pests.		
18.1	• Profitability • Productivity • Biodiversity • Food safety	WEED MANAGEMENT Preventive weed control methods may include: • Good land preparation • Use of certified seeds • Crop rotation • Flood (if water is abundant) Farmers follow the IPM principles and the following criteria:	a) No curative weed control methods are required.	3	• Profitability • Productivity • Biodiversity • Food safety	WEED MANAGEMENT Preventive weed control methods may include: • Good land preparation • Use of certified seedsfree from weed seeds • Crop rotation • Flood (if water is abundant) • Planting distance settings • Waterlogging regulation	a) No curative weed control methods are required.	3
			b) Curative weed control methods are needed and farmers control weeds effectively without using herbicides.	3			b) Curative weed control methods are needed and farmers control weeds effectively without using herbicides.	3
			c) Curative weed control methods are required and farmers meet all six listed criteria.	3			c) Curative weed control methods are required and farmers meet all six listed criteria.	3

		1. Preventive weed control methods are used, before considering curative methods. 2. Herbicides are only used when other control methods (e.g. manual and mechanical weeding) are ineffective and the severity of the weeds is expected to cause significant damage or loss. 3. Herbicide selection is in accordance with national government recommendations, registered for use on rice, derived from a non-falsified source, and not listed on the following international lists: ○ Persistent Organic Pollutants in the Stockholm Convention ○ 1A or 1B according to the World Health Organization classification	d) Curative weed control methods are required and farmers only meet criteria 1, 2, 3, 4 and 5. *Minimum Requirements	2*		● Timing and method of fertilizer application Farmers follow the IPM principles and the following criteria:	d) Curative weed control methods are required and farmers only meet criteria 1, 2, 3, 4 and 5. *Minimum Requirements	2*
			e) Curative weed control methods are required and farmers only meet criteria 1, 2, and 3.	1			e) Curative weed control methods are required and farmers only meet criteria 1, 2, and 3.	1
			f) Curative weed control methods are required and farmers do not meet criteria 1, 2, and 3.	0			f) Curative weed control methods are required and farmers do not meet criteria 1, 2, and 3.	0
						1. Preventive weed control methods are used, before considering curative methods. 2. Herbicides are only used when other control methods (e.g. manual and mechanical weeding) are ineffective and the severity of the weeds is expected to cause significant damage or loss. 3. Herbicide selection is in accordance with national government recommendations, registered for use on rice, derived from a non-falsified source, and not listed on the following international lists:		

		○Annex III of the Rotterdam Convention 4. Herbicide application is aimed at avoiding the non-application zone S. 5. Herbicide application methods are in accordance with product label instructions, following the specified pre-harvest intervals, and not exceeding the specified dosage (for worker safety and food safety). 6. The selection and use of herbicides is adjusted to the target weed species, taking into account the time of rice canopy closure, and considering local information on herbicide-resistant weeds (for efficiency).				○Persistent Organic Pollutants in the Stockholm Convention ○1A or 1B according to the World Health Organization classification ○Annex III of the Rotterdam Convention 4. Herbicide application is aimed at avoiding the non-application zone S. 5. Herbicide application methods are in accordance with product label instructions, following the specified pre-harvest intervals, and not exceeding the specified dosage (for worker safety and food safety). 6. The selection and use of herbicides is adjusted to the target weed species, taking into account the time of rice canopy closure, and considering local information on		
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						herbicide-resistant weeds (for efficiency). <i>Source: E-leaning, PbN and SNI INDOGAP - SNI 8969:2021</i>		
18.2	• Profitability • Productivity • Biodiversity • Food safety	INSECT MANAGEMENT Preventive insect control methods may include: • Providing balanced nutrition (e.g., avoid excessive nitrogen intake) • Promotion of beneficial natural enemies (e.g. insects, spiders) and increasing habitat diversity around rice fields • Synchronized planting • Use of resistant/tolerant varieties • Promotion of other predators (e.g. birds, bats, frogs) • Crop rotation or extended fallow periods.	a) No curative insect control methods are required.	3	• Profitability • Productivity • Biodiversity • Food safety	INSECT MANAGEMENT Preventive insect control methods may include: • Providing balanced nutrition (e.g., avoid excessive nitrogen intake) • Use beneficial natural enemies (e.g. insects, spiders) and increase habitat diversity around rice fields. • Synchronized planting • Use of resistant/tolerant varieties • Use other predators (e.g. birds, bats, frogs) • Crop rotation or extended fallow periods. Farmers follow the IPM principles and the following criteria:	a) No curative insect control methods are required.	3
			b) Curative insect control methods are needed and farmers control insects effectively without using insecticides.	3			b) Curative insect control methods are needed and farmers control insects effectively without using insecticides.	3
			c) Curative insect control methods are required and farmers meet the seven criteria listed.	3			c) Curative insect control methods are required and farmers meet the seven criteria listed.	3
			d) Curative insect control methods are required and farmers meet criteria 1, 2, 3, 4, 5 and 6. <i>*Minimum Requirements</i>	2*			d) Curative insect control methods are required and farmers meet criteria 1, 2, 3, 4, 5 and 6. <i>*Minimum Requirements</i>	2*
			e) Curative insect control methods are required and farmers	1			e) Curative insect control methods are required and farmers	1

		Farmers follow the IPM principles and the following criteria:	meet criteria 1, 2, 3 and 4.			1. Preventive insect control methods are used, before considering curative methods.	meet criteria 1, 2, 3 and 4.	
		1. Preventive insect control methods are used, before considering curative methods. 2. Insecticides should only be used when other control methods (e.g. insect pheromones, biological control agents) are ineffective on their own, when the action threshold has been exceeded, and when the presence of a particular insect is expected to cause significant loss or damage. 3. Broad spectrum insecticides are not used in the first 40 days after planting in production fields (except in accordance with IPM recommendations by local government extension experts).	f) Curative insect control methods are required and farmers do not meet criteria 1, 2, 3 and 4.	0		2. Insecticides should only be used when other control methods (e.g. insect pheromones, biological control agents) are ineffective on their own, when the action threshold has been exceeded, and when the presence of a particular insect is expected to cause significant loss or damage. 3. Broad spectrum insecticides are not used in the first 40 days after planting in production fields (except in accordance with IPM recommendations by local government extension experts). 4. Insecticide selection is in accordance with national government recommendations,	f) Curative insect control methods are required and farmers do not meet criteria 1, 2, 3 and 4.	0

		4. Insecticide selection is in accordance with national government recommendations, registered for use on rice, derived from a non-falsified source, and not listed on the following international lists: ○ Persistent Organic Pollutants in the Stockholm Convention ○ 1A or 1B according to the World Health Organization classification ○ Annex III of the Rotterdam Convention 5. Insecticide applications are targeted to avoid non-application zones. 6. Insecticide application methods are in accordance with product label instructions, following the specified pre-harvest interval, and not exceeding the specified dose (for				registered for use on rice, derived from a non-falsified source, and not listed on the following international lists: ○ Persistent Organic Pollutants in the Stockholm Convention ○ 1A or 1B according to the World Health Organization classification ○ Annex III of the Rotterdam Convention 5. Insecticide applications are targeted to avoid non-application zones. 6. Insecticide application methods are in accordance with product label instructions, following the specified pre-harvest interval, and not exceeding the specified dose (for worker safety and food safety). 7. Insecticide selection and use responds to the target insect species,		
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		worker safety and food safety). 7. Insecticide selection and use responds to the target insect species, considering optimal timing for the target species, and considering local information on insecticide-resistant insects (for efficiency).				considering optimal timing for the target species, and considering local information on insecticide-resistant insects (for efficiency).		
18.3	Profitability Productivity Biodiversity Food safety	DISEASE MANAGEMENT Preventive disease control methods may include (effective for fungal, bacterial, and viral diseases): ● Providing balanced nutrition (e.g., avoid excessive nitrogen intake) ● Planting at optimum density ● Use of resistant varieties ● Synchronized planting ● Cleaning of host plants (e.g. weeds on embankments, rice stubble, wild rice)	a) No curative disease control methods are required. b) Curative disease control methods are needed and farmers control the disease effectively without using fungicides. c) Curative disease control methods are required and farmers meet all six listed criteria. d) Curative disease control methods are required and farmers meet criteria 1, 2, 3, 4	3 3 3 2*	Profitability Productivity Biodiversity Food safety	DISEASE MANAGEMENT Preventive disease control methods may include (effective for fungal, bacterial, and viral diseases): ● Providing balanced nutrition (e.g., avoid excessive nitrogen intake) ● Planting at optimum density ● Use of resistant varieties ● Synchronized planting ● Cleaning of host plants (e.g. weeds on embankments, rice stubble, wild rice)	a) No curative disease control methods are required. b) Curative disease control methods are needed and farmers control the disease effectively without using fungicides. c) Curative disease control methods are required and farmers meet all six listed criteria. d) Curative disease control methods are required and farmers meet criteria 1, 2, 3,	3 3 3 2*

		● Keep the environment between the soil and the plant crown dry or moist (depending on the disease).	and 5. <i>*Minimum Requirements</i>			● Keeping the environment between the soil and the plant canopy dry or moist (depending on the disease) /Sufficient irrigation. Water stress in gogo rice is higher than in upland rice.	4 and 5. <i>*Minimum Requirements</i>	
		Farmers follow the IPM principles and the following criteria:	e) Curative disease control methods are required and farmers meet criteria 1, 2, and 3.	1		Farmers follow the IPM principles and the following criteria:	e) Curative disease control methods are required and farmers meet criteria 1, 2, and 3.	1
		1. Preventive disease control methods are used, before considering curative methods. 2. Fungicides are only used when other treatment methods (e.g., biological control agents) are ineffective and the severity of the disease is expected to cause significant damage or losses. 3. Fungicide selection is in accordance with national government recommendations, registered for use on rice, derived from a non-falsified source, and not listed on the following international lists:	f) Curative disease control methods are required and farmers do not meet criteria 1, 2 and 3.	0		1. Preventive disease control methods are used, before considering curative methods. 2. Fungicides are only used when other treatment methods (e.g., biological control agents) are ineffective and the severity of the disease is expected to cause significant damage or losses. 3. Fungicide selection is in accordance with national government recommendations, registered for use on rice, derived from a non-falsified source,	f) Curative disease control methods are required and farmers do not meet criteria 1, 2 and 3.	0

		○ Persistent Organic Pollutants in the Stockholm Convention ○ 1A or 1B according to the World Health Organization classification ○ Annex III of the Rotterdam Convention. 4. Fungicide applications are targeted to avoid non-application zones. 5. Fungicide application methods are in accordance with product label instructions, following the specified pre-harvest interval or at least 30 days before harvest (if a pre-harvest interval is not available), and not exceeding the specified dose (for worker safety and food safety). 6. Fungicides respond to the target disease type, taking into account recent fungal disease history and predicted weather patterns, and				and not listed on the following international lists: ○ Persistent Organic Pollutants in the Stockholm Convention ○ 1A or 1B according to the World Health Organization classification ○ Annex III of the Rotterdam Convention. 4. Fungicide applications are targeted to avoid non-application zones. 5. Fungicide application methods are in accordance with product label instructions, following the specified pre-harvest interval or at least 30 days before harvest (if a pre-harvest interval is not available), and not exceeding the specified dose (for worker safety and food safety). 6. Fungicides respond to the target disease type, taking into account		
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		taking into account local information on fungicide-resistant diseases (for efficiency).				recent fungal disease history and predicted weather patterns, and taking into account local information on fungicide-resistant diseases (for efficiency).		
						<i>Source: E-learning, PbN</i>		
18.4	• Profitability • Productivity • Biodiversity • Food safety	MOLLUSCA MANAGEMENT Preventive mollusk control methods may include: • Physical control (e.g. destruction of egg masses) • Reducing the water level so that snail attacks are hampered at the most vulnerable phase (i.e. the early growth phase) • Promotion of predators (e.g. wild birds, ducks, fish) • Use of stronger seedlings during transplanting by planting in nursery beds at low	a) No curative methods of mollusk control are required.	3	• Profitability • Productivity • Biodiversity • Food safety	MOLLUSCA MANAGEMENT Preventive mollusk control methods may include: • Physical control (e.g. destruction of egg masses, Regular collection of golden snails) • Egg trap installation • Baiting the trap (papaya stem) • Installation of wire mesh in the channels between plots • Reducing the water level so that snail attacks are hampered at the most	a) No curative methods of mollusk control are required.	3
			b) Curative mollusk control methods are needed and farmers control mollusks effectively without using molluscicides.	3			b) Curative mollusk control methods are needed and farmers control mollusks effectively without using molluscicides.	3
			c) Curative mollusk control methods are required and farmers meet all six listed criteria.	3			c) Curative mollusk control methods are required and farmers meet all six listed criteria.	3
			d) Curative mollusk control methods are required and farmers meet criteria 1, 2, 3, 4 and 5.	2*			d) Curative mollusk control methods are required and farmers meet criteria 1, 2, 3, 4 and 5.	2*

		density and planting older seedlings ●Crop rotation or extended dry fallow periods. Farmers follow the IPM principles and the following criteria: 1. Preventive mollusk control methods are used, before considering curative methods. 2. Molluscicides are used only when other treatment methods (e.g. collection) are ineffective and the severity of the mollusk infestation is expected to cause significant damage or loss. 3. The selection of molluscicides is in line with national government recommendations, is registered for use on rice, is from a non-falsified source, and is not listed on the following international lists:	<i>*Minimum Requirements</i>			vulnerable phase (i.e. the early growth phase) ●Making trenches in drained rice fields ●Use of predators (e.g. wild birds, ducks, fish) ●Use of stronger seedlings during transplanting by planting in nursery beds at low density and planting older seedlings ●Crop rotation or extended dry fallow periods. Farmers follow the IPM principles and the following criteria: 1. Preventive mollusk control methods are used, before considering curative methods. 2. Molluscicides are used only when other treatment methods (e.g. collection) are ineffective and the severity of the mollusk infestation is expected to cause significant damage or loss.	<i>*Minimum Requirements</i>		
			e) Curative mollusk control methods are required and farmers meet criteria 1, 2 and 3.	1			e) Curative mollusk control methods are required and farmers meet criteria 1, 2 and 3.	1	
			f) Curative mollusk control methods are required and farmers do not meet criteria 1, 2 and 3.	0			f) Curative mollusk control methods are required and farmers do not meet criteria 1, 2 and 3.	0	

		○ Persistent Organic Pollutants in the Stockholm Convention ○ 1A or 1B under the World Health Organization (WHO) classification ○ Annex III of the Rotterdam Agreement 4. Targeted molluscicide application to avoid non-application zones. 5. The method of application of molluscicides is in accordance with the product label instructions, not used before transplantation, following the pre-harvest interval, and not exceeding the recommended dose (for worker safety and food safety). 6. The use of molluscicides is according to the targeted mollusk species and is only				3. The selection of molluscicides is in line with national government recommendations, is registered for use on rice, is from a non-falsified source, and is not listed on the following international lists: ○ Persistent Organic Pollutants in the Stockholm Convention ○ 1A or 1B under the World Health Organization (WHO) classification ○ Annex III of the Rotterdam Agreement 4. Targeted molluscicide application to avoid non-application zones. 5. The method of application of molluscicides is in accordance with the product label instructions, not used before transplantation,		
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		used in the first 3 weeks after planting (for efficiency).				following the pre-harvest interval, and not exceeding the recommended dose (for worker safety and food safety). 6. The use of molluscicides is according to the targeted mollusk species and is only used in the first 3 weeks after planting (for efficiency). <i>Source: E-learning, PbN</i>		
18.5	• Profitability • Productivity • Biodiversity • Food safety	HANDLING OF RATS Preventive rodent control methods may include: • Community rodent management (e.g., rat eradication campaigns, trap crops) • Synchronized planting • Use of narrow embankments (to minimize rodent habitat)	a) No curative rodent control methods are required.	3	• Profitability • Productivity • Biodiversity • Food safety	HANDLING OF RATS Preventive rodent control methods may include: • Community rodent management (e.g., rat eradication campaigns, trap crops) • Cropping Pattern Arrangement (Crop Rotation)	a) No curative rodent control methods are required.	3
			b) Curative rodent control methods are needed and farmers control rodents effectively without using rodenticides.	3			b) Curative rodent control methods are needed and farmers control rodents effectively without using rodenticides.	3
			c) Curative rodent control methods are required and farmers	3			c) Curative rodent control methods are required and farmers	3

		● Promotion of predators (e.g. birds of prey, snakes). Farmers follow the IPM principles and the following criteria: 1. Rodent control methods are preventative, before considering curative methods. 2. Rodenticides should only be used if other control measures (e.g., trapping, hunting) are ineffective on their own, if there is historical evidence of a rodent problem, and if the severity of the rodent infestation is expected to cause significant damage or loss. 3. The choice of rodenticide is in line with national government recommendations, is registered for use on rice, is from a non-falsified source, and is not listed on the	meet the six criteria listed.			● Planting Distance Setting (Legowo System) ● Intercropping system (paddy fields/dryland rice and secondary crops) ● Synchronized planting ● Use of narrow embankments (to minimize rodent habitat) ● Promotion of predators (e.g. birds of prey, snakes). ● Rat habitat sanitation Farmers follow the IPM principles and the following criteria: 1. Rodent control methods are preventative, before considering curative methods. 2. Rodenticides should only be used if other control measures (e.g., trapping, hunting) are ineffective on their own, if there is historical evidence of a rodent problem, and if the severity of the rodent infestation is	meet the six criteria listed.	
			d) Curative rodent control methods are required and farmers meet criteria 1, 2, 3, 4 and 5. <i>*Minimum Requirements</i>	2*			d) Curative rodent control methods are required and farmers meet criteria 1, 2, 3, 4 and 5. <i>*Minimum Requirements</i>	2*
			e) Curative rodent control methods are required and farmers meet criteria 1, 2 and 3.	1			e) Curative rodent control methods are required and farmers meet criteria 1, 2 and 3.	1
			f) Curative rodent control methods are required and farmers do not meet criteria 1, 2, and 3.	0			f) Curative rodent control methods are required and farmers do not meet criteria 1, 2, and 3.	0

		following international lists: ○ Persistent Organic Pollutants in the Stockholm Convention ○ 1A or 1B according to the World Health Organization classification ○ Annex III of the Rotterdam Convention 4. Rodenticide applications are targeted to avoid non-application zones. 5. Rodenticide application methods are in accordance with product label instructions, following the specified pre-harvest interval, and not exceeding the specified dose (for worker safety and food safety). 6. Rodenticides react to the target rodent species, are applied before the reproductive growth phase of the crop to avoid outbreaks				expected to cause significant damage or loss. 3. The choice of rodenticide is in line with national government recommendations, is registered for use on rice, is from a non-falsified source, and is not listed on the following international lists: ○ Persistent Organic Pollutants in the Stockholm Convention ○ 1A or 1B according to the World Health Organization classification ○ Annex III of the Rotterdam Convention 4. Rodenticide applications are targeted to avoid non-application zones. 5. Rodenticide application methods are in accordance with product label instructions, following		
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		during grain filling, and are placed under protective covers (e.g., bamboo tubes, coconut fiber) that are not easily accessible to birds or exposed to rain (for efficiency).				the specified pre-harvest interval, and not exceeding the specified dose (for worker safety and food safety). 6. Rodenticides react to the target rodent species, are applied before the reproductive growth phase of the crop to avoid outbreaks during grain filling, and are placed under protective covers (e.g., bamboo tubes, coconut fiber) that are not easily accessible to birds or exposed to rain (for efficiency). <i>Source: E-learning, PbN</i>		
18.6	• Profitability • Productivity • Biodiversity • Food safety	BIRD MANAGEMENT Non-lethal bird control methods may include: • Synchronized planting • Scare/deterrent tools • Promotion of predators (e.g. birds of prey, shrikes)	a) No bird control is required. b) Bird control is necessary and bird pests are managed with non-lethal bird control methods. c) Bird control is necessary and bird	3 3 2	• Profitability • Productivity • Biodiversity • Food safety	BIRD MANAGEMENT Non-lethal bird control methods may include: • Synchronized planting • Scare/deterrent tools, such as Putting up scarecrows, putting up nets, shiny plastic or CDs to reflect sunlight	a) No bird control is required. b) Bird control is necessary and bird pests are managed with non-lethal bird control methods. c) Bird control is necessary and bird	3 3 2

		Chemical bird repellents that do not kill birds and have no negative side effects	pests are managed with live traps and all non-pest species are released alive.			to scare them away, making noise from cans (birds don't like loud noises) - Promotion of predators (e.g. birds of prey, shrikes) - Plant bold flowers and plants: Sparrows don't like bold colors like yellow. - Land sanitation: birds do not like clean/open places. - Chemical bird repellent that does not kill birds and has no negative side effects.	pests are managed with live traps and all non-pest species are released alive.	
			d) Bird control is necessary and bird pests are managed through discriminatory shooting (hunting). <i>*Minimum Requirements</i>	1*			d) Bird control is necessary and bird pests are managed through discriminatory shooting (hunting). <i>*Minimum Requirements</i>	1*
			e) Bird control is necessary and birds are persecuted indiscriminately by killing, poisoning and/or hunting.	0			e) Bird control is necessary and birds are persecuted indiscriminately by killing, poisoning and/or hunting.	0
						Source: E-learning, PbN		
	Harvest and Post-Harvest							
19	- Profitability - Productivity - Food safety	HARVEST TIME Rice harvesting is carried out at the right time to optimize grain quality. General indications of the right harvest time are: 1. When 80% to 85% of the panicles are straw or yellow in color.	a) Farmers follow criteria 1 or 2.	3	- Profitability - Productivity - Food safety	HARVEST TIME Rice harvesting is carried out at the right time to optimize grain quality. General indications of the right harvest time are: 1. Visual observation where the visual appearance of 90 to 95% of the rice grains on the rice panicle are	a) Farmers follow criteria 1 or 2.	3
			b) Farmers follow criteria 3 or 4. <i>*Minimum Requirements</i>	2*			b) Farmers follow criteria 3 or 4. <i>*Minimum Requirements</i>	2*
			c) Farmers follow criteria 5.	1			c) Farmers follow criteria 5.	1
			d) Nothing is true.	0			d) Nothing is true.	0

		2. When the water content is between 21% to 24%. 3. Between 28 and 35 days after entering the dry season, or between 32 and 38 days after entering the rainy season. 4. Between 130 and 136 days after planting for late-maturing varieties, 113 and 125 for medium-maturing varieties, and 110 days for early-maturing varieties. 5. The grains at the bottom of the panicle should be in the “firm dough” stage (firm but not crumbly); grains that stick to your hand are too wet.				yellow or golden yellow. 2. The optimum harvest age is achieved after the grain moisture content reaches 22 – 23% in the dry season, and between 24 – 26% in the rainy season. 3. Between 28 and 35 days after entering the dry season, or between 32 and 38 days after entering the rainy season. 4. Between 130 and 136/between 135 – 145 days after planting for late-ripening varieties, 113 and 125 for medium-ripening varieties, and 110 days for early-ripening varieties. 5. The grains at the bottom of the panicle should be in the “firm dough” stage (firm but not crumbly); grains that stick to your hand are too wet. <i>Source: Technical Guidelines for Rice Post-Harvest, Technology Assessment</i>		
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						Center Riau Agriculture, Agricultural Research and Development Agency, Ministry of Agriculture, 2014		
20	Food safety	HARVESTING EQUIPMENT Rice is harvested with clean equipment to prevent contamination and variety mixing. Machinery (if used) is adjusted to optimal settings and operated according to crop and field conditions to minimize quality and losses due to shattering.	For manual harvesting: a) Heavy equipment is cleaned before use. * <i>Minimum Requirements</i> b) Heavy equipment is not cleaned before use. For mechanical harvesting: c) Harvesting equipment is cleaned before use and machine settings are adjusted. * <i>Minimum Requirements</i> d) Harvesting equipment is cleaned before use, or machine settings are adjusted.	3* 0 3* 1	Food safety	HARVESTING EQUIPMENT Rice is harvested with clean equipment to prevent contamination and variety mixing. Machinery (if used) is adjusted to optimal settings and operated according to crop and field conditions to minimize quality and losses due to shattering.	For manual harvesting: a) Heavy equipment is cleaned before use. * <i>Minimum Requirements</i> b) Heavy equipment is not cleaned before use. For mechanical harvesting: c) Harvesting equipment is cleaned before use and machine settings are adjusted. * <i>Minimum Requirements</i> d) Harvesting equipment is cleaned before use, or machine settings are adjusted.	3* 0 3* 1

			e) Harvesting equipment was not cleaned before use and machine settings were not adjusted.	0			e) Harvesting equipment was not cleaned before use and machine settings were not adjusted.	0
21	• Profitability • Productivity • Food safety	DRYING TIME Drying of rice on the farm begins within 24 hours of harvest. The final moisture content is documented and depends on the subsequent use of the rice: • Moisture content 14-18% for direct sales, for sale within 3 days. • Water content 16% or less for sale within 1 week. • Moisture content of 14% or less to store grains for more than 1 week. • Water content 12% or less for storing seeds. In a single batch, the moisture content of a grain is no more than 1% after	a) Farmers transport the grain to a drying or processing facility within 12 hours of harvest.	3	• Profitability • Productivity • Food safety	DRYING TIME Drying of rice on the farm begins within 24 hours of harvest. The final moisture content is documented and depends on the subsequent use of the rice: • Moisture content 14-18% for direct sales, for sale within 3 days. • Water content 16% or less for sale within 1 week. • Moisture content of 14% or less to store grains for more than 1 week. • Water content 12% or less for storing seeds. In a single batch, the moisture content of a grain is no more than 1% after	a) Farmers transport the grain to a drying or processing facility within 12 hours of harvest.	3
			b) Farmers begin drying grain on farmland within 24 hours of harvest and achieve a moisture content of 16% or less and a moisture gradient of no more than 1% within one week.	3			b) Farmers begin drying grain on farmland within 24 hours of harvest and achieve a moisture content of 16% or less and a moisture gradient of no more than 1% within one week.	3
			c) Farmers start drying the grain on the farm within 24 hours after harvest and achieve a moisture content of 14-18% or less and a moisture gradient of no more than 1% within 3 days.	2*			c) Farmers start drying the grain on the farm within 24 hours after harvest and achieve a moisture content of 14-18% or less and a moisture gradient of no more than 1% within 3 days.	2*

		drying compared to the average moisture content (i.e., the moisture gradient). If the rice is not dried on-farm (e.g., in a farmer's concrete yard), it is transported to a drying facility (e.g., a mill) or processing facility within 12 hours of harvest.	<i>*Minimum Requirements</i>			drying compared to the average moisture content (i.e., the moisture gradient). If the rice is not dried on-farm (e.g., in a farmer's concrete yard), it is transported to a drying facility (e.g., a mill) or processing facility within 12 hours of harvest.	<i>*Minimum Requirements</i>	
			d) The farmer began drying grain in his field within 24 hours of harvest but was unable to document a moisture content of 18% or less or a moisture gradient of 1% or less.	1			d) The farmer began drying grain in his field within 24 hours of harvest but was unable to document a moisture content of 18% or less or a moisture gradient of 1% or less.	1
			e) Farmers did not transport grain to a drying or processing facility within 12 hours of harvest, or begin drying grain on the farm within 24 hours of harvest.	0			e) Farmers did not transport grain to a drying or processing facility within 12 hours of harvest, or begin drying grain on the farm within 24 hours of harvest.	0
22	• Profitability • Productivity • Food safety	DRYING TECHNIQUES The grain is dried using continuous drying techniques. For sun drying: 1. Layer thickness 2-4 cm. 2. The paddy is turned over every certain period of time.	a) Farmers do not do the drying themselves. b) Farmers use mechanical drying and follow criteria 5 and 6. c) Farmers used drying in the sun and follow criteria 1, 2, 3, and 4.	There isn't any 3 2*	• Profitability • Productivity • Food safety	DRYING TECHNIQUES The grain is dried using continuous drying techniques. For sun drying: 1. Layer thickness 2-4 cm. 2. The paddy is turned over every certain period of time.	a) Farmers do not do the drying themselves. b) Farmers use mechanical drying and follow criteria 5 and 6. c) Farmers used drying in the sun and follow criteria 1, 2, 3, and 4.	There isn't any 3 2*

		3. The grain is protected from the rain. 4. The grain is protected from mycotoxins, animals and humans (e.g. on nets, mats or canvas). For mechanical drying: 5. The use of certified quality drying machines to produce optimal quality rice (does not change color, does not smell, and minimizes the amount of broken rice). 6. Set the dryer temperature to a maximum of 43°C for flatbed batch dryers and 55°C for recirculating batch dryers.	<i>*Minimum Requirements</i> d) Farmers used drying in the sun and follow criteria 3 and 4. e) Nothing is true.	1 0		3. The grain is protected from the rain. 4. The grain is protected from mycotoxins, animals and humans (e.g. on nets, mats or canvas). For mechanical drying: 5. The use of certified quality drying machines to produce optimal quality rice (does not change color, does not smell, and minimizes the amount of broken rice). 6. Set the dryer temperature to a maximum of 45°C for flatbed batch dryers and 55°C for recirculating batch dryers. <i>Source: litbang.pertanian.go.id</i>	<i>*Minimum Requirements</i> d) Farmers used drying in the sun and follow criteria 3 and 4. e) Nothing is true.	1 0	
23	•Profitability •Productivity •Food safety	RICE STORAGE Rice is stored safely to maintain its quality,	a) Farmers do not store rice on their land.	There isn't any	•Profitability •Productivity •Food safety	RICE STORAGE Rice is stored safely to maintain its quality,	a) Farmers do not store rice on their land.	There isn't any	

		through airtight storage or the following measures: 1. Prevent contamination with hazardous substances, such as agricultural chemicals. 2. Maintain a moisture content of 14% or less. 3. Prevent re-wetting. 4. Prevent pest damage without fumigation. 5. Rice is cleaned before storage (removing dirt, weeds and insects).	b) Farmers practice airtight storage or implement all five measures.	3		through airtight storage or the following measures: 1. Prevent contamination with hazardous substances, such as agricultural chemicals. 2. Maintain a moisture content of 14% or less. 3. Prevent re-wetting. 4. Prevent pest damage without fumigation. 5. Rice is cleaned before storage (removing dirt, weeds and insects).	b) Farmers practice airtight storage or implement all five measures.	3
			c) Farmers apply steps 1, 2, 3 and 4 only.	2			c) Farmers apply steps 1, 2, 3 and 4 only.	2
			d) Farmers only apply steps 1 and 2. <i>*Minimum Requirements</i>	1			d) Farmers only apply steps 1 and 2. <i>*Minimum Requirements</i>	1
			e) Nothing is true.	0			e) Nothing is true.	0
24	• Nutrient use efficiency • Greenhouse gas emissions	RICE STUD Rice straw is managed sustainably to reduce greenhouse gas emissions, minimize environmental impacts, and maintain or improve soil quality. Rice straw is: 1. Not burning. 2. Allow sufficient time (at least 3 weeks) for aerobic decomposition before wetting.	a) Farmers meet criteria 1 and 2, without plowing the rice stubble underneath.	3	• Nutrient use efficiency • Greenhouse gas emissions	RICE STUD Rice straw is managed sustainably to reduce greenhouse gas emissions, minimize environmental impacts, and maintain or improve soil quality. Rice straw is: 1. Not burning. 2. Allow sufficient time (at least 3 weeks) for aerobic decomposition before wetting.	a) Farmers meet criteria 1 and 2, without plowing the rice stubble underneath.	3
			b) Farmers meet criteria 1 and 2, by plowing the rice stubble when the soil is dry.	2			b) Farmers meet criteria 1 and 2, by plowing the rice stubble when the soil is dry.	2
			c) Farmers meet criterion 1, but plow rice stubble when the soil is flooded. <i>*Minimum Requirements</i>	1*			c) Farmers meet criterion 1, but plow rice stubble when the soil is flooded. <i>*Minimum Requirements</i>	1*
			d) Farmers burn rice stubble.	0			d) Farmers burn rice stubble.	0

25	• Nutrient use efficiency • Greenhouse gas emissions	STRAW Rice straw is sustainably managed to reduce greenhouse gas emissions, minimize environmental impacts, and maintain or improve soil quality. Rice straw is: 1. Not burning. 2. Allow sufficient time (at least 2 weeks) for aerobic decomposition if rice straw is left in the field or plowed under. 3. Collected and used as animal feed, then returned to the fields. Or collected, composted, and returned to the fields.	a) Farmers meet criteria 1 and 3.	3	• Nutrient use efficiency • Greenhouse gas emissions	STRAW Rice straw is sustainably managed to reduce greenhouse gas emissions, minimize environmental impacts, and maintain or improve soil quality. Rice straw is: 1. Not burning. 2. Allow sufficient time (at least 2 weeks) for aerobic decomposition if rice straw is left in the field or plowed under. 3. Collected and used as animal feed, then returned to the fields. Or collected, composted, and returned to the fields Or sold for use as animal feed or for the production of compost fertilizer and returned to the fields	a) Farmers meet criteria 1 and 3.	3
			b) Farmers only meet criteria 1 and 2.	2			b) Farmers only meet criteria 1 and 2.	2
			c) Farmers only meet criteria 1.* <i>Minimum Requirements</i>	1*			c) Farmers only meet criteria 1. <i>*Minimum Requirements</i>	1*
			d) Farmers burn rice straw.	0			d) Farmers burn rice straw.	0
	Health and Safety							
26	Worker health and safety	SAFETY AND FIRST AID INSTRUCTIONS Workers, including household members,	a) Workers, including working household members, receive safety instructions annually, and first	2	Worker health and safety	SAFETY AND FIRST AID INSTRUCTIONS Workers, including working household	a) Workers, including working household members, receive safety instructions annually, they have	2

		receive regular safety instructions on how to prevent work-related accidents or illnesses, where to access a first aid kit, and how to contact a health professional. First aid kits should be well-labeled and readily available on the farm or located at a designated medical center known to and accessible to farmers in the group.	aid kits are available on the farm or at designated medical centers known and accessible to farmers in the group.			members, receive regular safety instructions on how to prevent work-related accidents or illnesses, where to access a first aid kit, and how to contact a health care provider. First aid kits should be well-labeled and readily available on the farm or located at a designated medical center known to and accessible to farmers in a group.workers have the knowledge and skills to implement K3.	knowledge and skills in implementing Occupational Health and Safety (K3)and first aid kits are available on the farm or at specific medical centers known and accessible to farmers in the group.	
			b) Workers, including working household members, have received safety instructions, and know how to contact the nearest health worker or clinic. <i>*Minimum Requirements</i>	1*			b) Workers, including working household members, have received safety instructions, and know how to contact the nearest health worker or clinic. <i>*Minimum Requirements</i>	1*
			c) There are no safety instructions.	0			c) There are no safety instructions. <i>Source: SNI 8969:2021 INDOGAP clause 4.1.8.1 Labor for Planting Process</i>	0
27	Worker health and safety	TOOLS AND EQUIPMENT Equipment and tools for agricultural operations and post-harvest processes are functional	a) Equipment and tools are maintained and calibrated according to the current planting season.	2	Worker health and safety	TOOLS AND EQUIPMENT Equipment and tools for agricultural operations and post-harvest processes are functional	a) Equipment and tools are maintained and calibrated according to the current planting season.	2

		and efficient through regular and proper maintenance and calibration. Equipment is stored properly. Pesticide application equipment (if pesticides are used) is maintained and calibrated to prevent leaks or contamination.	b) Equipment and tools have been maintained and calibrated within the last 2 years. <i>*Minimum Requirements</i>	1*		and efficient through regular and proper maintenance and calibration. Equipment is properly stored. Pesticide application equipment (if pesticides are used) is maintained and calibrated to prevent leaks or contamination.	b) Equipment and tools have been maintained and calibrated within the last 2 years. <i>*Minimum Requirements</i>	1*
			c) Tools and equipment have not been maintained and calibrated in the last 2 years.	0			c) Tools and equipment have not been maintained and calibrated in the last 2 years.	0
28	Worker health and safety	PESTICIDE APPLICATOR TRAINING Pesticide applicators receive training and implement good practices regarding the safe handling and use of pesticides, including: ● Explanation of the name, toxicity, health risks, and other relevant information regarding all substances to be used. ● Correct substance handling techniques. ● Precautions to reduce the likelihood of harm to health and the environment caused by substances.	a) No use of pesticides.	2	Worker health and safety	PESTICIDE APPLICATOR TRAINING Pesticide applicators receive training and implement good practices regarding the safe handling and use of pesticides, including: ● Explanation of the name, toxicity, health risks, and other relevant information regarding all substances to be used. ● Correct substance handling techniques. ● Precautions to reduce the likelihood of harm to health and the environment caused by substances.	a) No use of pesticides.	2
			b) If pesticides are used, within the last 5 years, the pesticide applicator has attended training and demonstrated that the relevant content has been applied.	2			b) If pesticides are used, within the last 5 years, the pesticide applicator has attended training and demonstrated that the relevant content has been applied.	2
			c) If pesticides are used, within the last 5 years, the pesticide applicator has undergone training. <i>*Minimum Requirements</i>	1*			c) If pesticides are used, within the last 5 years, the pesticide applicator has attended training. <i>*Minimum Requirements</i>	1*
			d) If pesticides were used, in the last 5 years, the pesticide	0			d) If pesticides were used, in the last 5 years, the pesticide	0

		●Emergency procedures for cases involving poisoning or improper contact with substances.	applicator did not undergo training.			●Emergency procedures for cases involving poisoning or improper contact with substances.	applicator did not undergo training.	
29	Worker health and safety	PERSONAL PROTECTIVE EQUIPMENT (PPE) Pesticide applicators use functional and good quality PPE as recommended on the product label, including: ●Chemical resistant gloves ●Face mask ●Skin protection (e.g., long-sleeved shirts, long pants) ●Boots ●Eye protection during mixing and application	a) No use of pesticides.	2	Worker health and safety	PERSONAL PROTECTIVE EQUIPMENT (PPE) Pesticide applicators use functional and good quality PPE as recommended on the product label, including: ●Chemical resistant gloves ●Face mask ●Skin protection (e.g., long-sleeved shirts, long pants) ●Boots ●Eye protection during mixing and application	a) No use of pesticides.	2
			b) If pesticides are used, in cases spraying : Pesticide applicators use the five PPE listed and are of good quality (or as recommended on the product label).	2			b) If pesticides are used, in cases spraying : Pesticide applicators use the five PPE listed and are of good quality (or as recommended on the product label).	2
			c) If pesticides are used, in case airplane, drone, or tractor applications : Pesticide applicators wear good quality chemical resistant gloves and masks when mixing (or as recommended on the product label).	2			c) If pesticides are used, in case airplane, drone, or tractor applications : Pesticide applicators wear good quality chemical resistant gloves and masks when mixing (or as recommended on the product label).	2
			d) If pesticides are used, in cases spraying : Pesticide applicators should at least use	1*			d) If pesticides are used, in cases spraying : Pesticide applicators should at least use	1*

			good quality chemical resistant gloves and masks. <i>*Minimum Requirements</i>				good quality chemical resistant gloves and masks. <i>*Minimum Requirements</i>	
			e) Nothing is true.	0			e) Nothing is true.	0
30	Worker health and safety	WASHING AND CHANGING A dedicated area for washing PPE, showering, and changing clothes is available for workers after pesticide application. All PPE worn during pesticide application is washed after use and should not be taken indoors. This designated area is separate from the area used for washing household clothes.	a) No use of pesticides.	2	Worker health and safety	WASHING AND CHANGING A dedicated area for washing PPE, showering, and changing clothes is available for workers after pesticide application. All PPE worn during pesticide application is washed after use and should not be taken indoors. This designated area is separate from the area used for washing household clothes.	a) No use of pesticides.	2
			b) If pesticides are used, a special place is provided for washing and changing (separate), and it is not used for washing household needs.	2			b) If pesticides are used, a special place is provided for washing and changing (separate), and it is not used for washing household needs. The laundry room and changing area (bathroom) are equipped with water, soap and clean towels.	2
			c) If pesticides are used, a dedicated area is provided for washing and changing (combined), and is not used for household laundry. <i>*Minimum Requirements</i>	1*			c) If pesticides are used, a dedicated area is provided for washing and changing (combined), and is not used for household laundry. <i>*Minimum Requirements</i>	1*
			d) When pesticides are used, the area for	0			d) When pesticides are used, the area for	0

			washing and changing pesticide applicator tools is used for household laundry.				washing and changing pesticide applicator tools is used for household laundry. <i>Source: Regulation of the Minister of Manpower of the Republic of Indonesia Number 3 of 1986 About Safety and Health Requirements In Workplaces That Manage Pesticides Article 15</i>	
31	Worker health and safety	APPLICATION LIMITATIONS Pesticides should not be used by pregnant or breastfeeding women, by people under 18 years of age, or by people suffering from chronic illnesses or respiratory diseases.	a) No use of pesticides. b) If pesticides are used, they should not be used by pregnant or breastfeeding women, by people under 18 years of age, or by people suffering from chronic illnesses or respiratory diseases. <i>*Minimum Requirements</i>	2 2*	Worker health and safety	APPLICATION LIMITATIONS Pesticides should not be used by pregnant or breastfeeding women, by people under 18 years of age, or by people suffering from chronic illnesses or respiratory diseases.	a) No use of pesticides. b) If pesticides are used, they should not be used by pregnant or breastfeeding women, by people under 18 years of age, or by people suffering from chronic illnesses or respiratory diseases. Also, pesticide applicators must not be exposed for more than 5 hours a day, and 20 hours a week. <i>*Minimum Requirements</i>	2 2*

			c) If pesticides are used, they should not be used by pregnant or breastfeeding women, by people under 18 years of age, or by people suffering from chronic illnesses or respiratory diseases.	0			c) If pesticides are used, they should not be used by pregnant or breastfeeding women, by people under 18 years of age, or by people suffering from chronic illnesses or respiratory diseases. <i>Source: Regulation of the Minister of Manpower of the Republic of Indonesia Number 3 of 1986 About Safety and Health Requirements In Workplaces That Manage Pesticides (Article 2 Paragraph 1)</i>	0
32	Worker health and safety	RE-ENTRY TIME Re-entry time after pesticide use: 1. Follow the directions on the product label, or after 48 hours if the label does not provide a recommendation. 2. Communicated clearly.	a) No use of pesticides. b) If pesticides are used, farmers meet criterion 1 and meet criterion 2 by placing warning signs or symbols in the fields. c) If pesticides are used, the farmer meets criterion 1 and meets criterion 2 by verbally	2 2 1*	Worker health and safety	RE-ENTRY TIME Re-entry time after pesticide use: 1. Follow the directions on the product label, or after 48 hours if the label does not provide a recommendation. 2. Communicated clearly.	a) No use of pesticides. b) If pesticides are used, farmers meet criterion 1 and meet criterion 2 by placing warning signs or symbols in the fields. c) If pesticides are used, the farmer meets criterion 1 and meets criterion 2 by verbally	2 2 1*

			communicating the re-entry time. <i>*Minimum Requirements</i>				communicating the re-entry time. <i>*Minimum Requirements</i>	
			d) If pesticides are used, the farmer does not meet criteria 1 and/or 2.	0			d) If pesticides are used, the farmer does not meet criteria 1 and/or 2.	0
33	- Food safety - Worker health and safety	STORAGE OF PESTICIDES AND CHEMICALS Pesticides and inorganic fertilizers (including partially empty containers) are: - Labeled. - Store in a locked place separate from fuel, food and rice and out of reach of children.	a) No storage of pesticides and/or inorganic fertilizers.	2	- Food safety - Worker health and safety	STORAGE OF PESTICIDES AND CHEMICALS Pesticides and inorganic fertilizers (including partially empty containers) are: - Labeled. - Store in a locked place separate from fuel, food and rice and out of reach of children.	a) No storage of pesticides and/or inorganic fertilizers.	2
			b) If pesticides and/or inorganic fertilizers are stored: Farmers meet criteria 1 and 2.	2			b) If pesticides and/or inorganic fertilizers are stored: Farmers meet criteria 1 and 2.	2
			c) If pesticides and/or inorganic fertilizers are stored: Farmers meet criteria 2. <i>*Minimum Requirements</i>	1			c) If pesticides and/or inorganic fertilizers are stored: Farmers meet criteria 2. <i>*Minimum Requirements</i>	1
			d) If pesticides and/or inorganic fertilizers are stored: The farmer does not fulfill any of the above.	0			d) If pesticides and/or inorganic fertilizers are stored: The farmer does not fulfill any of the above.	0

34	Worker health and safety	PESTICIDE DISPOSAL Empty pesticide containers, excess pesticides, and obsolete pesticides (e.g., past their shelf life or banned) are disposed of properly, through collection, return, or disposal services, or through good pesticide disposal practices. Good pesticide disposal practices include: 1. The empty container is rinsed three times with water. The remaining spray and rinse water are sprayed onto unmanaged areas of the farmland, away from water bodies. 2. Containers are rendered unusable by crushing or puncturing them before burying them on farmland. 3. Containers are buried in designated areas (at least 20 meters from water bodies) and are inaccessible to children or unauthorized persons.	a) No use of pesticides.	2	Worker health and safety	PESTICIDE DISPOSAL Empty pesticide containers, excess pesticides, and obsolete pesticides (e.g., past their shelf life or banned) are disposed of properly, through collection, return, or disposal services, or through good pesticide disposal practices. Good pesticide disposal practices include: 1. The empty container is rinsed three times with water. The remaining spray and rinse water are sprayed onto unmanaged areas of the farmland, away from water bodies. 2. Containers are rendered unusable by crushing or puncturing them before burying them on farmland. 3. Containers are buried in designated areas (at least 20 meters from water bodies) and are inaccessible to children or unauthorized persons.	a) No use of pesticides.	2
			b) If pesticides are used: farmers participate in collection, return or disposal services, especially if the volume of waste is large.	2			b) If pesticides are used: farmers participate in collection, return or disposal services, especially if the volume of waste is large.	2
			c) If pesticides are used: if such services are not available, the farmer meets all four criteria for good practice in pesticide disposal. <i>*Minimum Requirements</i>	1			c) If pesticides are used: if such services are not available, the farmer meets all four criteria for good practice in pesticide disposal. <i>*Minimum Requirements</i>	1
			d) If pesticides are used, if such services are not available, the farmer does not meet all four criteria for good practice in pesticide disposal.	0			d) If pesticides are used, if such services are not available, the farmer does not meet all four criteria for good practice in pesticide disposal.	0
			e) If pesticides are used, there are collection, return or disposal services, but farmers do not take advantage of them.	0			e) If pesticides are used, there are collection, return or disposal services, but farmers do not take advantage of them.	0

		4. Expired pesticides are returned to the distributor or, if not possible, disposed of in a manner that minimizes exposure to humans and the environment.				4. Expired pesticides are returned to the distributor or, if not possible, disposed of in a manner that minimizes exposure to humans and the environment.		
	Workers' Rights							
35	Child labor and youth engagement	CHILD WORKERS Children under the age of 15 are not employed as workers. Family members under the age of 15 who live on the family farm may participate in agricultural activities consisting of light tasks appropriate to their age, which provide them with the opportunity to develop skills, only if these activities: 1. It does not harm their health and development. 2. Does not interfere with school and free time. 3. Under adult supervision. 4. Not exceeding 14 hours per week. The	a) Farmers do not employ children under the age of 15 as workers. b) Family members under the age of 15 live and work on the farm, and the farmer complies with all four criteria. <i>*Minimum Requirements</i> c) Family members under the age of 15 live and work on the farm, and the farmer does not comply with one or more criteria. d) Farmers engage children under the age of 15 (who are	3 3* 0 0	Child labor and youth engagement	CHILD WORKERS Children under the age of 15 are not employed as workers. Family members under the age of 15 who live on the family farm may participate in agricultural activities consisting of light tasks appropriate to their age, which provide them with the opportunity to develop skills, only if these activities: 1. It does not harm their health and development. 2. Does not interfere with school and free time. 3. Under adult supervision.	a) Farmers do not employ children under the age of 15 as workers. b) Family members under the age of 15 live and work on the farm, and the farmer complies with all four criteria. <i>*Minimum Requirements</i> c) Family members under the age of 15 live and work on the farm, and the farmer does not comply with one or more criteria. d) Farmers engage children under the age of 15 (who are	3 3* 0 0

		age of the worker is always verified and documented.	not family members living on the farm) as workers.			4. Not exceeding 14 hours per week. The age of the worker is always verified and documented.	not family members living on the farm) as workers.	
36	Child labor and youth engagement	DANGEROUS WORK All workers comply with applicable workplace safety regulations (e.g., going indoors if there is a fire risk). Children under 18 are not assigned to perform work that could endanger their safety or health. Children under 18 are not engaged in hazardous work or work that could endanger their physical, mental, or moral well-being. They must not: 1. Working in hazardous locations. 2. Working with dangerous machinery, equipment, and tools (as defined by national laws and regulations). 3. Carrying heavy loads. 4. Working with hazardous substances. 5. Working at night. Workers' ages are	a) No children under the age of 18 work on the farm.	There isn't any	Child labor and youth engagement	DANGEROUS WORK All workers comply with applicable workplace safety regulations (e.g., going indoors if there is a fire risk). Children under 18 are not assigned to perform work that could endanger their safety or health. Children under 18 are not engaged in hazardous work or work that could endanger their physical, mental, or moral well-being. They must not: 1. Working in hazardous locations. 2. Working with dangerous machinery, equipment, and tools (as defined by national laws and regulations). 3. Carrying heavy loads. 4. Working with hazardous substances.	No children under the age of 18 years are allowed to work on farms.	There isn't any
			b) There are children under the age of 18 working in agriculture, and farmers comply with all five criteria. <i>*Minimum Requirements</i>	3*			There are children under 18 working on farmland, and farmers comply with all five criteria. <i>*Minimum Requirements</i>	3*
			c) There are children under the age of 18 working in agriculture, and the farmers do not comply with one or more criteria.	0			There are children under 18 working on farms, and farmers do not comply with one or more criteria.	0

		always verified and documented.				5. Working in environments with extreme conditions, such as excessive exposure to hot sun when working on agricultural land, can cause young workers to experience heatstroke or dehydration. 6. Working at night. Workers' ages are always verified and documented. <i>Source: E-learning, PbN</i>		
37	Child labor and youth engagement	EDUCATION Children living in agricultural areas of compulsory school age attend school all year round.	a) There are no children living in agricultural areas of compulsory school age. b) Children living in agricultural areas of compulsory school age attend school all year round. c) Children who live in agricultural areas of compulsory school age attend school, but not all year round. d) Children living in agricultural areas of	There isn't any 3 2 1*	Child labor and youth engagement	EDUCATION Children living in agricultural areas of compulsory school age attend school all year round.	There are no children living in agricultural areas of compulsory school age. Children living in agricultural areas of compulsory school age attend school all year round. Children who live in agricultural areas of compulsory school age attend school, but not all year round. Children living in agricultural areas of	There isn't any 3 2 1*

			compulsory school age do not attend school, but there are efforts to provide education. <i>*Minimum Requirements</i>				compulsory school age do not attend school, but there are efforts to provide education. <i>*Minimum Requirements</i>	
			e) Children living in agricultural areas of compulsory school age do not attend school, and no deliberate and proven efforts are made to provide education.	0			Children living in agricultural areas of compulsory school age do not attend school, and no deliberate and proven efforts are made to provide education.	0
38	Not linked to a specific SRP performance indicator	FORCED LABOR No forced, compulsory, or enslaved labor is used, including forced and bonded labor, prison labor, or the use of extortion, debt, threats, fines, or penalties. The following criteria are met: 1. It is not permissible to withhold (part of) a worker's salary, allowances, property or documents (e.g. identity cards and travel documents) in order to force the	a) Farmers do not involve workers.	There isn't any	Not linked to a specific SRP performance indicator	FORCED LABOR No forced, compulsory, or enslaved labor is used, including forced and bonded labor, prison labor, or the use of extortion, debt, threats, fines, or penalties. The following criteria are met: 1. It is not permissible to withhold (part of) a worker's salary, allowances, property or documents (e.g. identity cards and travel documents) in order to force the	a) Farmers do not involve workers.	There isn't any
			b) Farmers demonstrate full compliance with all six criteria. (Smallholders may demonstrate compliance without documentation.) <i>*Minimum Requirements</i>	3*			b) Farmers demonstrate full compliance with all six criteria. (Smallholders may demonstrate compliance without documentation.) <i>*Minimum Requirements</i>	3*
			c) Farmers do not comply with one or more of the five criteria.	0			c) Farmers do not comply with one or more of the five criteria.	0

		worker to continue working. - Workers are not charged any recruitment or contract fees that would require them to owe money to the farm (or recruitment agency). - Workers are allowed to leave the farm premises at the end of their shift. - The worker's fixed working hours do not exceed 48 hours per week, with a minimum of 1 full day of rest for every 6 consecutive working days. - Spouses and children of contract workers are not forced to work on farms. - Landowners do not participate in or permit human trafficking.				worker to continue working. - Workers are not charged any recruitment or contract fees that would require them to owe money to the farm (or recruitment agency). - Workers are allowed to leave the farm premises at the end of their shift. - Employees' regular working hours do not exceed 40 hours per week (7 hours per day), with a minimum of 1 full day of rest for every 6 consecutive working days. - Spouses and children of contract workers are not forced to work on farms. - Landowners do not participate in or permit human trafficking. <i>Source: Law Number 13 of 2003 concerning Manpower ("Manpower Law") regulates the working hours of workers/laborers in general (Article 7 Paragraph 1)</i>		
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39	• Worker health and safety • Child labor and youth engagement • Women's empowerment	DISCRIMINATION There is no discrimination or disrespectful treatment of workers, including working family members. The following criteria are met: 1. There is no discrimination based on gender, ethnic background, national origin, religion, disability, sexual orientation, pregnancy, membership of a labor organization, or political affiliation. 2. There shall be no distinction, exclusion, or preference prejudicial to equality of opportunity in matters of recruitment, training, job assignment, benefits, remuneration, advancement, termination, retirement, or other employment-related decisions. 3. There should be no job-related health tests	a) Farmers do not involve workers.	There isn't any	• Worker health and safety • Child labor and youth engagement • Women's empowerment	DISCRIMINATION There is no discrimination or disrespectful treatment of workers, including working family members. The following criteria are met: 1. There is no discrimination based on gender, ethnic background, national origin, religion, disability, sexual orientation, pregnancy, membership of a labor organization, or political affiliation. 2. There shall be no distinction, exclusion, or preference prejudicial to equality of opportunity in matters of recruitment, training, job assignment, benefits, remuneration, advancement, termination, retirement, or other employment-related decisions.	a) Farmers do not involve workers.	There isn't any
			b) Farmers demonstrate full compliance with all five criteria. (Smallholders may demonstrate compliance without documentation.) <i>*Minimum Requirements</i>	3*			b) Farmers demonstrate full compliance with all five criteria. (Smallholders may demonstrate compliance without documentation.) <i>*Minimum Requirements</i>	3*
			c) The farmer does not comply with one or more criteria.	0			c) The farmer does not comply with one or more criteria.	0

		as a condition of employment (except for a legitimate drug test). 4. There is no behavior, gestures, language, or physical contact that constitutes sexual harassment, coercion, or threats. 5. No intimidation or physical punishment.				3. There should be no job-related health tests as a condition of employment (except for a legitimate drug test). 4. There is no behavior, gestures, language, or physical contact that constitutes sexual harassment, coercion, or threats. 5. No intimidation or physical punishment.		
40	• Worker health and safety • Child labor and youth engagement • Women's empowerment	FREEDOM OF ASSOCIATION Workers have the right to establish and/or join associations of their choice without interference and to participate in collective bargaining regarding working conditions. The following criteria are met: 1. Workers may freely establish and join workers' organizations, both internal (e.g., workers' representatives) and external (e.g., trade unions), and take part	a) Farmers do not involve workers. b) Farmers demonstrate full compliance with all four criteria. (Smallholders may demonstrate compliance without documentation.) <i>*Minimum Requirements</i> c) Farmers do not comply with one or more of the four criteria.	There isn't any 3* 0	• Worker health and safety • Child labor and youth engagement • Women's empowerment	FREEDOM OF ASSOCIATION Workers have the right to establish and/or join associations of their choice without interference and to participate in collective bargaining regarding working conditions. The following criteria are met: 1. Workers may freely establish and join workers' organizations, both internal (e.g., workers' representatives) and external (e.g., trade unions), and take part	a) Farmers do not involve workers. b) Farmers demonstrate full compliance with all four criteria. (Smallholders may demonstrate compliance without documentation.) <i>*Minimum Requirements</i> c) Farmers do not comply with one or more of the four criteria.	There isn't any 3* 0

		in collective bargaining on working conditions. 2. Labor organizations are allowed to carry out activities on agricultural land. 3. The effective functioning of labor organizations is not hindered and representatives of these organizations are not discriminated against. 4. Farmers adhere to collective bargaining agreements.				in collective bargaining on working conditions. 2. Labor organizations are allowed to carry out activities on agricultural land. 3. The effective functioning of labor organizations is not hindered and representatives of these organizations are not discriminated against. 4. Farmers adhere to collective bargaining agreements.		
41	• Worker health and safety • Child labor and youth engagement • Women's empowerment	WAGES The following criteria are met: 1. Workers' wages meet or exceed the minimum wage established by local or national laws and regulations. If wages are voluntarily negotiated between employers and workers' associations, the negotiated wage amount applies to all	a) Farmers do not involve workers. b) Farmers demonstrated full compliance with all four criteria. <i>*Minimum Requirements</i> c) Farmers demonstrate less than full compliance and/or do not comply with	There isn't any 3* 0	• Worker health and safety • Child labor and youth engagement • Women's empowerment	WAGES The following criteria are met: 1. Workers' wages meet or exceed the minimum wage established by local or national laws and regulations. If wages are voluntarily negotiated between employers and workers' associations, the negotiated wage	a) Farmers do not involve workers. b) Farmers demonstrated full compliance with all four criteria. <i>*Minimum Requirements</i> c) Farmers demonstrate less than full compliance and/or do not comply with	There isn't any 3* 0

		workers covered by the negotiated agreement. This includes providing equal pay to men and women for work of equal value. 2. Wages are paid on time and regularly. 3. Wages are paid in legal tender, or in another form acceptable to the worker without creating any form of dependency. 4. Overtime is voluntary and is paid according to rates established by local or national laws and regulations, or as collectively negotiated.	one or more of the four criteria.			amount applies to all workers covered by the negotiated agreement. This includes providing equal pay to men and women for work of equal value. 2. Wages are paid on time and regularly. 3. Wages are paid in legal tender, or in another form acceptable to the worker without creating any form of dependency. 4. Overtime is voluntary and is paid according to rates established by local or national laws and regulations, or as collectively negotiated.	one or more of the four criteria.	
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2.3.2 Sustainable Rice Farming Governance Standards

The Indonesian sustainable rice platform, in addition to containing rice cultivation standards consisting of 41 requirements and 8 themes or the same as the SRP Standard v2.2, also includes other additional themes. Institutions and policies are placed separately from the 8 themes and 41 indicators. However, their existence is important and mutually supportive of the rice cultivation standard theme, especially when the themes of the rice cultivation standard are implemented and measured. The institutional and policy theme is interpreted as one of the dimensions of sustainability that helps achieve and maintain environmental, economic, social, and technological sustainability in a fair, inclusive, and equitable manner through good, transparent, effective, and accountable institutional governance at all levels. The institutional component is important to support the inclusiveness of Indonesian agricultural standards for sustainable rice, considering that in the rice cultivation process, the role of farmer institutions (farmer groups and/or farmer group associations) is key in various stages, such as seed management, subsidized fertilizer, and irrigation water management. Therefore, farmer institutions need to be encouraged and empowered to become strategic coordination centers for farmers and related parties (financial institutions, government, research and educational institutions, and the private sector). In accordance with the above, indicators that influence the sustainability of institutional and policy dimensions are farmer institutional management; farmer accessibility; young farmer programs; government subsidy policies; and protection policies in farmer and producer group partnerships.

In implementing institutional and policy requirements, farmers can answer specific questions from the standard. The questions provided will not be included in the total SRP assessment score. Instead, the answers provided by farmers reflect the current state of rice cultivation practices in a region, based on the institutions and policies that support them. Optimal or suboptimal results serve as a basis for improvement for both farmers and stakeholders. The following details of institutional and policy requirements are shown in Table 4.

Table 4. Institutional Requirements and Policies

Indicators for Institutional and Policy Themes		
No		
1	Farmer institutional management	
2	Farmer accessibility	
3	Young farmer program	
4	Government subsidy policy	
5	Protection policies in partnerships between farmers and producer groups	
Institutional Requirements and Policies		
No	Institutions and Policies	Answer
1	Are farmer institutions running actively?	1. Not active 2. Less active 3. Active
2	Do farmers have easy accessibility (access to price information, markets, capital, training)?	1. Difficult to access 2. Fairly easy to access (one of three things) 3. Fairly easy to access (two of three things) 4. It's quite easy to access all three 5. Easy access

3	Are there any government programs that encourage the growth of young farmers in the local area?	1. There isn't any 2. There is
4	Are there any farming subsidies from the government in the farming areas?	1. There are no farming subsidies 2. There are farming subsidies, but farmers have not received them 3. Farmers have received farming subsidies, but production costs are still relatively expensive. 4. Farmers receive farming subsidies that provide many benefits to farming.
5	Are there any policies or regulations, either from the government or private bodies, regarding partnerships and protection for farmers in running their farming businesses?	1. There isn't any 2. Yes, farmers do not receive the benefits because they do not apply according to the provisions. 3. Yes, farmers receive the benefits.

2.4 Provisions on the Inapplicability of Requirements in the Indonesian Sustainable Rice Cultivation Standards

The SRP Version 2.2 standard serves as a key reference for harmonizing sustainable rice cultivation practices in Indonesia. This standard emphasizes not only technical aspects but also integrates sustainability principles holistically, encompassing environmental, social, and economic dimensions. By adopting SRP v2.2, Indonesia can strengthen its existing national certification system, while simultaneously increasing the competitiveness of rice products in the global market and supporting the achievement of sustainable development goals.

The Indonesian sustainable agriculture standard for rice cultivation refers to the SRP standard and requirements version 2.2, with adjustments to the Indonesian context. There are limitations in implementing the standard, whether all requirements are included in farmer adoption or not. In this case, certain requirements may not apply in some cases at the farmer level. Therefore, these requirements can be excluded from the assessment of rice cultivation sustainability. This non-applicability occurs if the following conditions are found:

1. When a farmer produces under rain-fed conditions (without irrigation), then requirements 11, 12, 13, and 14 do not apply.
2. When a farmer does not dry his own rice, then requirement 22 does not apply.
3. When a farmer does not store his grain, then requirement 23 does not apply.
4. When a farmer does not have children under the age of 18 working on the farm, then requirement 36 does not apply.
5. When a farmer does not have school-age children, the 37 requirement does not apply.
6. When a farmer does not have any hired workers, then requirements 38, 39, 40, and 41 do not apply.

2.5 Sustainable Rice Cultivation Standards Score in Indonesia

The Indonesian Sustainable Rice Agriculture Standard allows for incremental adjustment to encourage and reward progress toward full adjustment. All requirements (requirements 1–41) have multiple levels of adjustment, allowing the Indonesian agricultural standard to be used both for assessment and as a targeted improvement tool to promote farmer adoption. These different levels recognize that increasing farmer adjustment takes time and can be a challenging process. Having different levels of adjustment demonstrates the process of improvement and provides evidence of each step toward higher scores.

The point scores for the 41 requirements of the Indonesian SRP standard are still based on the points scored in the global SRP standard. Once the score per requirement is determined, the next step is to calculate the percentage for each standard theme/indicator. To determine the percentage value, refer to the following formula:

$$\text{Indicator achievement (\%)} = \frac{(\text{total maximum indicator score}_{n1})}{\text{Total maximum indicator}_{1,2,3,4,5,6,7,8}} \times 100$$

The results of the calculation of the SRP indicator achievement formula are presented in the pie chart below (Figure 3). The chart shows the maximum proportion score of criteria (requirements) owned by each indicator in the SRP standard. In this case, the percentage does not indicate good or bad performance, but reflects the number of criteria scores within each indicator. Two indicators have the largest portion of criteria scores, namely Harvest and Post-Harvest and Labor Rights with a percentage achievement of 16% of the total criteria. Integrated Pest Management and Health and Safety contributed 14%, followed by Initial Preparation (13%), Water Management (11%), and Nutrition Management (9%). Meanwhile, Farm Management is the indicator with the fewest criteria, namely 7% of the total. These percentages show how the SRP criteria are distributed among indicators, thus helping to understand the focus and composition of the standard as a whole.

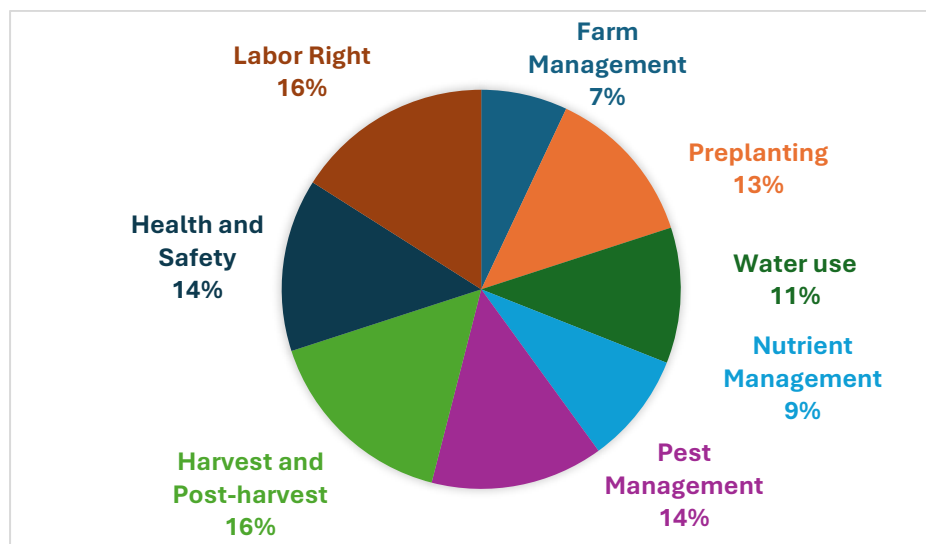


Figure 3. Indonesian SRP Weighting for Sustainable Rice Cultivation Standards

The total farmer score on the standard is shown on a scale of 0 to 100. This score is based on the total number of actual points obtained by farmers divided by the maximum number of points from the entire sustainable rice cultivation standard, then multiplied by 100. In both the global and Indonesian SRP standards, there will be certain conditions, where generally the maximum score is 132 points will change according to the farmer's condition (non-applicability of the standard requirement assessment). To better understand this, the following Table 5 shows the maximum score based on the conditions of non-applicability of the assessment.

Tabel 5. Max Score Obtained Based on Certain Conditions

No	Condition of Farmers	Terms Do Not Apply	Max. Number of Standard SRP Points*
1	When a farmer produces under rain-fed conditions (without irrigation)	11, 12, 13, 14	120
2	When a farmer does not dry his own rice	22	129
3	When a farmer does not store his grain	23	129
4	When a farmer does not have children under the age of 18 working in the agricultural area	36	129
5	When a farmer does not have school-age children	37	129
6	When a farmer has no hired workers	38, 39, 40, 41	120

Source: Sustainable Rice Platform (versi 2.2)

III. BENCHMARK

This section will provide a general comparison between the SRP Standard (Version 2.2) with national regulations and standards in Indonesia on sustainable rice farming such as SNI 8969:2021 on Indonesian Good Agricultural Practices (IndoGAP), SNI 6729:2016 on Organic Farming Systems, SNI 9248:2024 on Paddy Plant Adaptation Tests, and other related regulations.

Tabel 6. Comparison of the Indonesian Agricultural Standard for Sustainable Rice with the Global SRP Standard (version 2.2)

No	SRP Standard (Version 2.2)	Indonesian context	Analysis
AGRICULTURAL MANAGEMENT			
1	PLANTING CALENDAR A written planting calendar is developed at the beginning of each growing season. It is updated as needed to adapt to changing conditions (e.g., weather, pest infestations). The planting calendar shows the estimated dates of field activities and the actual dates of implementation. These activities consist of (where applicable): 1. Determining the timing of major activities (e.g. land preparation, planting, harvesting). 2. Timing of fertilizer application (e.g., separation plan) and water management activities (e.g., irrigation). 3. Determining the timing of pest threat evaluation and damage level (e.g., observation). 4. Determination of the time of workers and/or contract services. (e.g., machines)	1. Not included in SNI 6729:2016 concerning Organic Farming Systems 2. Not included in SNI 8969:2021 concerning Indonesian Good Agricultural Practices (IndoGAP) 3. Contained in Law No. 20 of 2019 concerning Sustainable Agricultural Cultivation Systems which was partially amended by Law No. 6 of 2023 concerning Job Creation, Article 41 paragraph 2 (a) where the planting calendar is included in planting management to realize the right pattern, plant seeds, facilities and infrastructure, and on time. 4. Contained in the Minister of Agriculture Regulation No. 39 of 2018 concerning the Early Warning System and Handling of the Impact of Climate Change on the Agricultural Sector Article 10, paragraph 1, states that climate change impact management can be achieved through the use of an integrated planting calendar information system. This article has also been supported by its implementation through the Integrated KATAM Information System (SI KATAM), an information system that can assist farmers and other stakeholders in producing food crops through sustainable, climate-resilient agriculture. However, this Integrated KATAM Information System is no longer accessible.	Indonesia already has a government-created planting calendar system called the Integrated Planting Calendar Information System (SI KATAM) in 2019. It's available digitally and can be accessed via a website or mobile device. However, the Integrated SI KATAM page is currently inaccessible. Implementation of the Planting Calendar from SRP v2.2 can be implemented in Indonesia.

2	RECORD KEEPING Records are kept for each growing season. These records should reflect at least a basic level of data (which can be easily collected by farmers) and should include intermediate-level data (which may require collection by external partners). Basic data (if any) in local units: 1. Field size 2. Seed varieties 3. Input costs (land, labor, seeds, agricultural chemicals, water, services) 4. Amount of irrigation during and after land preparation 5. Fertilizer given (amount of fertilizer given, amount of fertilizer given, synthetic fertilizer or organic fertilizer) 6. Pesticides applied (number of times applied) 7. Amount of rice harvest 8. Selling price of paddy 9. Intermediate data (if any). Advanced data: 1. Same as above but local units are converted to international units 2. More accurate data to enable quantitative analysis of sustainable practices implemented, such as: - Water management (e.g. volume of irrigation water, total rainfall, number of flood days, number and duration of drought events) - Nutrient management (e.g. N and P analysis of applied fertilizers, amount of organic matter added to the soil)	1. Recording (farm recording) of crop cultivation efforts has been regulated in Minister of Agriculture Regulation 48/2006 concerning Guidelines for Good and Correct Food Crop Cultivation (Good Agriculture Practices). The records include: a. Name of company or food crop agribusiness; b. Company/business tools; c. Types of food crops and varieties planted; d. Total products; e. Area size; f. Location; g. Production per hectare; h. Income per hectare; i. Use of Production Facilities; and j. OPT and Control Facilities. 2. Records related to the use of production facilities are also included in SNI 8969:2021 concerning Indonesian Good Agricultural Practices (IndoGAP). Especially on: 4.1.3 b. Recording of source data and/or class of seeds used is carried out 4.1.4 b. For fertilizers produced and used independently, the raw materials used are recorded. 4.1.5 b. For soil conditioners produced and used independently, the raw materials used are recorded. 4.1.6 b. Natural pesticides that are produced and used independently are recorded using the raw materials used. 4.1.7 b. For growth regulators produced and used independently, the raw materials used are recorded.	Based on these national regulations and standards, Indonesia can adopt them. It appears that existing record-keeping is not as holistic as SRP v 2.2. The records in the Indonesian regulations and national standards in the adjacent column do not provide detailed information. Therefore, adopting SRP v 2.2 could complement both.
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	- Pest management (e.g., pest damage data, records of pest control products used) - And other topics For specific details on the basic and intermediate data level units of measurement, please see the SRP Performance Indicators.		
3	TRAINING Farmer training, information, and support needs are assessed for all topics in the SRP Standard. Farmers receive the necessary training, information, and support. SRP Authorized Trainers are external partners or preferred professional sources for training on SRP. The SRP also recognizes the exchange of information with other farmers or within farmer organizations. Farmers demonstrate that relevant content is implemented.	1. Farmers acquire knowledge through training, apprenticeships, and competency certification. After participating in these activities, an assessment/evaluation is conducted as stipulated in Minister of Agriculture Regulation 120/2014 concerning Guidelines for the Implementation of Education and Training and Farmer Competency Certification 2. Training for farmers can also be done by independent agricultural training institutions as regulated in the Minister of Agriculture Regulation No. 33 of 2016 concerning Guidelines for the Development of Independent Agricultural Training Institutions. Independent Agricultural and Rural Training Center hereinafter referred to as P4S is a training institution with an agricultural and rural apprenticeship method that is established, owned and managed by the main actors and business actors independently, both individuals and groups.	Farmers receive training and exchange information and knowledge related to the latest rice cultivation technologies and/or existing innovations from the government, CSOs, and private companies. This training and information exchange are typically conducted collaboratively within farmer groups or farmer group associations. However, training and information related to SRP is still very limited. But basically, the Training requirements can be adopted because the spaces for exchanging information are already available in farmer groups.
PRE-PLANTATION			
4	HEAVY METALS Milled grain must be safe from heavy metals. Milled grain is safe if no heavy metal levels are detected in the milled grain as determined by international food safety authorities, or by national laws or regulations (whichever is more stringent).	1. SNI INDOGAP/ SNI 8969:2021 4.1.1.1 c. Land is free from contamination by hazardous and toxic waste (B3). d. The history of land use for at least 1 (one) year previously must be clear.	The existing regulations and standards in Indonesia do not specifically mention the prevention or prohibition of B3 contamination in rice fields, and there are already technical

	The risk of soil contamination from heavy metals such as arsenic, cadmium, chromium, mercury, and lead has been assessed. If there is (a risk of) soil contamination due to heavy metals: 1. Group-level soil analysis is conducted in contaminated areas at least every 5 years. 2. Soil remediation techniques (the process of cleaning or repairing soil contaminated by hazardous substances) are applied.	2. SNI 6729:2016 concerning Organic Farming Systems: 3.1.1.4 Contamination Prevention a) Air Pollution: carried out with buffer zones of both plants and ditches b) Water pollution can be minimized with filtration pools c) Soil, water and plant samples can be taken for analysis in a testing laboratory accredited by KAN if found. suspicion of the use of prohibited substances in organic farming systems This SNI also includes the types and limits of heavy metals for soil improvement materials (fertilizers). 3. Farmers can do soil testing in ISO 17025:2017 accredited laboratories: General requirements for the competence of testing and calibration laboratories 4. Minister of Agriculture Regulation No. 64 of 2013 – Organic Farming System Article 5: c. it is not permitted to use growing media and fertilizers derived from synthetic chemicals; d. in the management of pest organisms it is not permitted to use synthetic chemicals. Article 6 (b): the land referred to in letter a shall not be treated with materials prohibited as soil fertilizers and materials prohibited for use in the manufacture of pesticides for 3 (three) years before harvesting. 5. SNI 7387:2009 concerning Maximum Limits of Heavy Metal Contamination in Food 4. The two types of heavy metal contamination in food that are regulated are arsenic (As), cadmium (Cd), mercury (Hg), tin (Sn), and lead (Pb). This SNI regulates the maximum levels of these heavy metals for bran-free rice.	instructions for remediation of rice fields from mercury and arsenic. Analysis or testing of soil quality (at risk) of being contaminated with B3 for SNI Organic is carried out periodically every 3 years, while for SRP every 5 years. SRP v 2.2 Heavy Metals requirements are more stringent.
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		6. Technical Instructions for Remediation of Lowland Rice Fields and Horticultural Land Contaminated with Mercury and Arsenic Through the Utilization of Bioremediators, Agricultural Research and Development Agency, Ministry of Agriculture, which states that the provision of bioremediators enriched with Hg and As tolerant microbes in contaminated rice fields can reduce Hg and As in the soil by more than 50% and produce relatively high grain yields.	
5	SOIL SALINITY The risk of soil salinity (a measure of the dissolved salt content in the soil) has been analyzed. Soil salinity is monitored, when at acceptable levels (i.e., not exceeding 3 dS/m (deciSiemens per meter) for soil or 5 g/L (grams per liter) for water), and effectively managed, when levels are considered high. If there is a risk of soil salinity, mitigation/adaptation measures include: - Selection of varieties that are tolerant to salinity. - Monitoring salinity in field water. Salinity management through maintaining water pressure in the field. - Management of inflow/outflow in terms of quantity and time to minimize salinity. - Expert advice and next steps.	1. Farmers can do soil testing in ISO 17025:2017 accredited laboratories: General requirements for the competence of testing and calibration laboratories 2. In the Technical Instructions for Land Suitability Assessment Guidelines for Strategic Agricultural Commodities, Agricultural Research and Development Agency, Ministry of Agriculture- Semi-Detail Level Scale 1:50,000 in 2016 stated that the acidity level of irrigated and rain-fed rice commodities with land conditions that do not have limiting factors is < 2 dS/m. Meanwhile, for land with limiting factors and still able to be managed by farmers themselves, the salinity level is 2 - 4 dS/m.	Measurement of salinity and maximum limits of soil acidity levels in Indonesia have been determined based on conditions, types of land use, and limiting factors. However, this measurement is still limited to land and not yet on the use of varieties and water management, so it needs to be adjusted further.
6	LAND CONVERSION AND DIVERSITY VITAL Rice planting after 2009 did not result in any conversion within (proposed) protected areas, Key Biodiversity Areas™, Ramsar Sites (wetlands), primary forests, secondary (native) forests, or other natural ecosystems and land types such as grasslands. At the field level, farmers maintain and/or enhance applicable site-specific biodiversity elements:	1. SNI INDOGAP/ SNI 8969:2021 4.1.1.1 a. The location of the plantation land must be in accordance with the Regional Spatial Planning (RTRW). b. Land has clear ownership status and usage rights to avoid ownership conflicts. f. Land used for planting needs to be assessed for the risk of damage. environmental risks include the risk of flooding, erosion and damage to surrounding land. g. The land used is equipped with tabular and spatial data.	Indonesian standards have a different perspective on land, focusing primarily on resolving land disputes by establishing clear permits for land use. While the government has issued regulations on sustainable agricultural land protection, and several provinces have issued derivative regulations, new land clearing is still possible,

	●Habitat / protection in the field ●Field boundaries ●Uncut/separated area ●Plant species that host beneficial natural enemies ●Trees (replanted if cut down) Agricultural practices maintain and/or enhance ecosystem services.	2. The concept of protection against land conversion is regulated in special regulations., including: Law 41/2009 concerning Protection of Sustainable Food Agricultural Land; PP 1/2011 concerning Determination and Conversion of Sustainable Agricultural Land; PP 12/2012 concerning Incentives for Protection of Sustainable Food Agricultural Land; PP 25/2012 concerning Information System for Sustainable Food Agricultural Land; PP 30/2012 concerning Financing for Protection of Sustainable Food Agricultural Land; Permentan 7/2012 concerning Technical Guidelines for Criteria and Requirements for Areas, Land, and Reserve Land for Sustainable Food Agricultural Land. 3. In addition, there are also rules from Law No. 32 of 2009 concerning Environmental Protection and Management (PPLH) Article 69 (h) states that it is not permitted to clear land by burning.	particularly for productive agricultural use. Implementing these requirements will be quite challenging in Indonesia
7	INVASIVE SPECIES No invasive species (e.g., water hyacinth, golden apple snail) have been intentionally introduced by farmers or groups since 2009. Where invasive species are present, effective management measures are in place to protect native species.	1. The Ministry of Agriculture has the authority to protect agriculture through an integrated pest management system. Monitoring and control of invasive foreign species at entry and exit points is carried out in accordance with the Quarantine Law. Law 22/2019 concerning Sustainable Agricultural Cultivation Systems includes an Integrated Pest Management System. 2. Law No. 32 of 2009 concerning Environmental Protection and Management (PPLH) Article 69 (g) states that it is prohibited to release genetically engineered products to environmental media that is contrary to environmental laws and regulations or permits 3. SNI 6729:2016 concerning Organic Farming Systems F.4.3 Inspection of Genetically Modified Organisms (GMOs) System that must implement a system to inspect and verify GMOs and their derivatives are not used in organic production; certification bodies	Specific regulations for invasive species in Indonesia are limited to general regulations on Animal, Fish, and Plant Quarantine and do not specifically address the rice farming sector. There are more regulations related to GMOs.

		must provide GMO product information to operators and require measures to reduce GMOs.	
8	LAND LEVELING (LEVELING) Instructions: Identify the system that applies to most cultivated land. Provide a response to that system: - Flat or terraced land - Sloping land without terracing - Dry land (without irrigation) Rice planted on flat or terraced land: ●If laser leveling is used, the land or terrace is leveled to a slope of 1/1000 in the plot. ●If the leveling is not done using a laser, it must be ensured by visual observation that the land does not have high or low points when filled with water and that the plant stands are of uniform height (i.e., not wavy). Rice planted on sloping land without terracing: ●Physical soil conservation practices are used (e.g., sloping land farming, installation of erosion barriers). ●Cultural soil conservation practices are used (e.g., non-invasive cover cropping, mulching*). Rice grown in dryland (unirrigated) fields: No leveling required. *a layer of material placed on the surface of the soil around plants for various purposes, such as maintaining soil moisture, suppressing weed growth, and protecting plants from erosion	1. SNI INDOGAP/ SNI 8969:2021 4.1.1.1 e. Land used for planting must comply with regulations that regulate certain height limits and/or certain levels of slope. 2. Not specifically in Rice but in the Minister of Agriculture Regulation 22/2021 concerning Good Horticultural PracticesArticle 13 paragraph (1) Cultivated land with a slope of more than 30% (thirty percent) shall be made into terraces, ridges, and/or planted with perennial trees. (2) The making of terraces, ridges, and/or planted with perennial trees as referred to in paragraph (1) aims to prevent erosion, landslides or flooding. 3. Apart from that, there is also the Minister of Agriculture Regulation 47/2006 concerning General Guidelines for Agricultural Cultivation on Mountainous Lands.explains several things to prevent landslides and erosion by creating various terraced lands according to regional conditions	Indonesian policy on terraced agricultural land forms does not specifically address rice cultivation. However, the importance of erosion prevention on sloped agricultural land is already included in Good Horticultural Practices.

9	PURE SEED QUALITY Pure quality seeds are free from weed seeds, pests and diseases. Certified seeds must comply with applicable national laws/regulations or the regulations of the destination market. Quality controlled seeds (non-certified) must meet criteria including varietal purity, weed seed freedom, germination testing, safe storage, fungal control, etc. Self-stored seeds with quality control must meet criteria including safe storage, roguing (removal of all types or mixtures of plants) in the field before harvest, etc. The practice of self-storing seeds should not exceed 3 harvest cycles.	SNI INDOGAP/ SNI 8969:2021 4.1.3 Seeds - The seeds must be healthy and of the right variety. - Recording of source data and/or class of seeds used. - Varieties that have a risk of being toxic if consumed by humans must be informed. SNI 6729:2016 Organic Agriculture 3.1.1.6 Selection of Plants and Varieties where for the SEED section: - Organic certified seeds - If point (a) is not available, you can use seeds from organic plant cultivation. - If point (b) is not available, you can use non-organic seeds for the initial stage, then you must use organic seeds. - If points (a), (b) and (c) are not available, commercial seeds can be used. The seeds must then be washed to remove contaminants from the seeds. - For annual plants, it is prohibited to move plants (transplanting) that are grown from non-organic land or grown non-organically into organic land. There are SNI 6233:2015 (Inbred Seeds); SNI 8172:2015 (Hybrid Seeds)both of which stipulate quality requirements, field inspections, seed sampling, seed quality testing, labeling, and packaging for seeds. Regulation of the Minister of Agriculture No. 12 of 2018 concerning the production, certification and distribution of plant seedshas a scope regarding production, certification, distribution, development and supervision of seeds as well as provisions for sanctions.	The seeds distributed by the government are certified seeds and to obtain improved seeds (seeds from superior varieties that have been released and distributed, this is done through, among other things, laboratory testing of physical and physiological quality. In addition, plant isolation checks are carried out to prevent cross-breeding and wild mixing.
WATER USE			
10.1	WATER MANAGEMENT	Water management, such as water used for irrigation, must meet quality standards and not use hazardous waste water.regulated by the Minister of Agriculture Regulation No. 48/2006 concerning	The creation of irrigation and institutions for the management of irrigation facilities by both the

	Hint: Identify the local production system that is in effect on the majority of the land being cultivated. Only response correspondence requirements for the system. 10.1 Rainfed production system 10.2 Irrigation production system - (prone to flooding) 10.3 Irrigation production system - (not prone to flooding) 10.1 Steps have been put in place to improve the efficiency of water use, including: 1. Planting at the right time and according to local climate conditions. 2. Effective direct planting or soil cultivation (puddling), as well as maintaining strong rice field embankments. 3. Use of varieties that are suited to the local climate (e.g. short- or medium-duration varieties). 4. Provision of on-site rainwater harvesting and storage facilities for additional irrigation needs	Guidelines for Good and Correct Food Crop Cultivation (Good Agriculture Practices). 2. In addition, guidance and empowerment of Water User Farmers Associations (P3A) are carried out in order to: distribute water fairly and efficiently, manage conflicts between water users, and maintain irrigation networks. Guidelines for guidance and development of P3A are regulated in Regulation of the Minister of Agriculture Number 79/Permentan/OT.140/12/2012 of 2012 concerning Guidelines for the Development and Empowerment of Water User Farmers Associations	government and farmers already exist in Indonesia, but for the management of water use for irrigating rice fields, there are no specific regulations or guidelines. The challenge for irrigation water management is not only the lack of standard guidelines for farmers, but also the impact of using water management methods such as AWD or Intermittent Irrigation, which is an increase in pests and diseases. Furthermore, there are several situations in Indonesia where many expansive and rain-fed areas use groundwater irrigation using pump technology. This could be a consideration as to whether it should be included as a new requirement for Indonesian standards. This is because there are challenges in implementing regulations regarding the use of technology and the groundwater capacity used in the field is still insufficient, particularly regarding permit ownership.
10.2	10.2 IRRIGATION PRODUCTION SYSTEM - RAWAN FLOODED Various steps have been taken to improve water use efficiency, including: 1. Planting plants on time to avoid plants being submerged when flooding occurs. 2. At least one drying event (i.e. mid-season drainage with a 7-day drying/aeration period), if possible. 3. Leveling with provisions for minor drainage conditions. 4. Use of varieties that are resistant to flooding.		

10.3	10.3 IRRIGATION PRODUCTION SYSTEM - NOT VULNERABLE FLOODED Various steps have been taken to improve water use efficiency, including: 1. One time of dry soil cultivation before flooding when the soil cracks. 2. Strong leveling and embankments. 3. Dry sowing, or planting after soil wetting, effective waterlogging, and soil cultivation within a period of 1 week. 4. Alternate wetting and drying. 5. Use of short or medium-duration varieties that have the same yield potential as long-duration varieties. 6. Stop irrigation at least 10-15 days before harvest.		
11	IRRIGATION SYSTEM AT THE COMMUNITY LEVEL Irrigation systems controlled by farmers or farmer groups (supplied from surface water and/or groundwater) meet the following criteria: 1. The areas controlled by farmers have sufficient internal irrigation for supply and drainage. 2. There are no leaks in the embankment. 3. The water gate (if any) is working properly. 4. There is stakeholder involvement in decision making in irrigation systems	1. Government Regulation No. 20 of 2006 concerning Irrigation which regulates water rights, division of responsibilities, asset management, irrigation commissions, community supervision through farmer group institutions	Indonesian regulations regarding independent irrigation only focus on farmers' access to irrigation and have not yet reached the point of water use in the rice fields themselves.
12	INPUT WATER QUALITY Intake water is obtained from a clean source free from biological contamination, salts, and heavy metals. If there is a risk of contaminated water, remediation techniques include, for example,	1. SNI INDOGAP/ SNI 8969:2021 4.1.2.1 Water for the planting process a. The water used for the planting process must be clean water. b. The water required is adjusted to the source of water availability. c. The water used meets the multi-standard irrigation water standards (not dangerous/does not use	Regulations for good inlet water quality only consider "visibly clean water." Prevention of wastewater contamination is carried out by creating ditches or buffer zones.

	installing a filtration system or selecting an alternative treatment, if available.	hazardous wastewater/contaminated with hazardous waste). 4.1.2.2 Water for post-harvest handling processes a. Water sources for post-harvest handling processes are available in sufficient quantities and meet clean water and/or drinking water quality requirements. b. Availability of water for post-harvest handling processes including sanitation activities. 2. SNI 6729:2016/ Organic Farming System 3.1.1.4 on Prevention of contamination states If the source of contamination is from a water source, then filtration must be made with a size of 0.1% of the total land area to minimize contamination (for example: a reservoir pond is dug to a depth of at least 50 cm and planted with plants that can absorb contaminants, for example planting water hyacinth). 3. Provisions regarding the use of water for irrigation that meets irrigation quality standards and does not use hazardous waste water are regulated in Minister of Agriculture Regulation No. 48/2006 concerning Guidelines for Good and Correct Food Crop Cultivation (Good Agriculture Practices)	This is partly in line with the SRP indicators, so it could probably be implemented with some improvements.
13	GROUNDWATER EXTRACTION Groundwater extraction is legal and sustainable under applicable regulations. Sustainable groundwater extraction avoids depletion of water resources beyond the watershed's recharge capacity and balances competing uses.	1. SNI INDOGAP/ SNI 8969:2021 4.1.2.1 Water for planting process b. The water required is adjusted to the source of water availability. 2. ESDM Ministerial Decree No. 291.K/Gl.01/Mem.G/2023 Concerning Standards for Implementing Groundwater Use Approvals which regulates the use of groundwater for agricultural irrigation purposes by submitting an application for approval for the use of groundwater	Indonesian standards and regulations already accommodate the principles of sustainable groundwater extraction. However, regulations to prevent water depletion from groundwater extraction are not as stringent as those for domestic water use.
14	DRAINAGE Intentional surface (side) drainage after surface application of agrochemicals is delayed long	1. PP No. 20 of 2006 concerning Irrigation Article 46	Indonesian irrigation regulations stipulate that irrigation networks must be equipped with drainage to

	enough to avoid contamination from agrochemical runoff, or according to the product label. Agrochemical runoff can negatively impact biodiversity or the surrounding environment and waterways.	• Every irrigation network development is accompanied by the development of a drainage network which is an integral part of the irrigation network in question. • The drainage network as referred to in paragraph (1) functions to drain excess water so that it does not... disrupt land productivity. • The quality of excess irrigation water flowing through the drainage network must be maintained through pollution prevention efforts to meet quality requirements based on statutory regulations. • The government, provincial government, district/city government, water user farmer associations, and the community are obliged to maintain the continuity of drainage functions. • Everyone is prohibited from carrying out actions that can disrupt the drainage function	drain excess water and prevent water pollution. However, the implementation of drainage use in Indonesia is still weak.
NUTRITION MANAGEMENT			
15	NUTRITION MANAGEMENT (INORGANIC AND/OR (ORGANIC)) Efficient, site-specific nutrient management is implemented and documented. Steps for efficient nutrient management include: 1. The timing of fertilizer application (inorganic and/or organic; N, P, and/or K) is adjusted to the needs of the plant, recommendations adapted to local conditions, and product label instructions (if available). 2. The amount of fertilizer (inorganic and/or organic; N, P, and/or K) applied is based on knowledge of soil fertility and expected yields, locally adapted recommendations, and product label instructions (if available).	1. SNI INDOGAP/ SNI 8969:2021 4.2.5 Fertilization a. Fertilization is carried out to provide the plant's nutrient needs and maintain soil fertility. b. Fertilization is carried out with a balanced dose or according to the plant's needs, by prioritizing the return of decomposed plant remains with well, compost from animal manure or materials that fall into the category of materials organic. c. Fertilizer storage is carried out to reduce the risk of water and environmental pollution. d. Fertilizer use must be recorded. 2. Regulation of the Minister of Agriculture No. 40 of 2007 concerning Recommendations for N, P, and K Fertilization in	Measuring N, P, K fertilizer requirements based on land requirements and conditions using the following page https://webapps.irri.org/id/lkp/ However, the page above is not implementable enough for farmers, because it is only one-way, filling it in is complicated and requires assistance, and the suitability of the recommendations given to farmers is relatively the same for several conditions. Recommendations for the amount of N, P, K and manure needed for rice cultivation have been regulated in Regulation of the

	3. Natural systems of soil fertility enhancement (e.g. crop rotation, mixed cropping, and/or non-invasive cover crops) are used.	Location-Specific Lowland Rice Fields with the aim of ensuring efficient fertilization and optimal production	Minister of Agriculture No. 40 of 2007 concerning Recommendations for N, P, and K Fertilization in Location-Specific Lowland Rice Fields
16	ORGANIC FERTILIZER OPTIONS Organic materials (e.g., animal manure, green manure, mulch, rice straw) are used as fertilizers when conditions are favorable. Favorable conditions include: 1. Can be applied to land that is not flooded, in a composted or decomposed state. 2. There is enough time for it to decompose before flooding occurs. 3. Available locally (approximately 50 km radius) and in sufficient quantities.	1. SNI INDOGAP/ SNI 8969:2021 4.1.4 Fertilizer a. Fertilizers include registered organic, inorganic and/or biological fertilizers, except for fertilizers produced independently for personal use. b. For fertilizers that are produced and used independently, the raw materials used are recorded. c. Human waste, pig waste and pet waste including dogs and cats are not used as raw materials for fertilizer. 2. SNI ORGANIC FARMING SYSTEM/6729:2016 Requirements for other materials not listed in the attachment: In evaluating new materials to be used as fertilizer or soil conditioner, the materials must meet the following requirements: a. It has been proven to be able to fertilize or maintain soil fertility, provide certain nutrients, or perform certain processes. b. Derived from plants, animals, microbes or minerals that are processed physically (mechanically, heating, etc.), enzymatically or microbiologically (compost, fermentation, etc.). c. Chemical processes are limited to extraction processes or as binding agents; d. Its use does not damage the balance of the soil ecosystem, the physical properties of the soil or the quality of water and air; e. Its use is restricted to certain conditions, areas or commodities. 3. The use of organic fertilizers has been required to include instructions for use on the label as regulated in Minister of Agriculture Regulation No. 1 of 2019 concerning Registration organic fertilizer, biological fertilizer and soil conditioner.	Regulations and standards governing the use of fertilizers and the provision of independent fertilizers by farmers already exist. Monitoring and evaluation of its implementation needs to be carried out.

		4. Decree of the Director General of Agricultural Infrastructure and Facilities Number 45.10/KPTS/SR.810/B/11/2022 concerning Technical Guidelines for Fertilizer Activities Towards Organic Agriculture Through Organic Fertilizer Processing Units for the 2023 Fiscal Year where these regulations are made for: The objectives of the Fertilizer Towards Organic Agriculture activity through the Development of Organic Fertilizer Processing Units (UPPO) are: • Producing organic fertilizer in situ. • Supporting increased production, productivity, quality of results as well as providing added value and increasing farmers' income.	
17	INORGANIC FERTILIZER OPTIONS Inorganic fertilizers can only be used if they are registered and come from a non-counterfeit source.	1. SNI INDOGAP/ SNI 8969:2021 4.1.5 Soil improver a. The soil conditioner used has been registered, except for the soil conditioner which is self-generated for one's own benefit. b. Soil conditioners that are produced and used independently are recorded using the ingredients. the standard used. c. It is necessary to select the right soil conditioner according to your needs. d. Soil improvers that can be used include inorganic soil improvers. /mineral, organic, biological, and humic/fulvic compounds. Types of soil conditioners as stated in the attachment. 2. SNI ORGANIC FARMING SYSTEM/6729:2016 3.1.1.4 Prevention of contamination a) 1) Organic farming is based on minimal use of external inputs, and does not use synthetic fertilizers and pesticides. 3. Distribution of inorganic fertilizer must meet the 6 principles of accuracy (time, quantity, type, place, quality and price) as regulated	Regulations and standards governing the use of fertilizers and the provision of independent fertilizers by farmers already exist. Monitoring and evaluation of its implementation needs to be carried out.

		starting from Law 22/2019 concerning Sustainable Agricultural Cultivation Systems to Technical Guidelines for Subsidized Fertilizer Management.	
INTEGRATED PEST MANAGEMENT			
18	INTRODUCTION TO INTEGRATED PEST MANAGEMENT (IPM) The principles of IPM include: - Evaluate pest threats and levels of damage periodically (reconnaissance). - Using action thresholds recommended by local government extension experts. - Evaluate all available pest control methods. - Choose pest control methods that maximize human safety, minimize environmental impacts, are economically justifiable, and prevent food safety risks for all crops. IPM combines preventive and curative pest control methods. Preventive pest control methods help manage conditions to prevent pest buildup and may include: resistant varieties, crop rotation, intercropping, sanitation, ecological engineering, and more. Curative pest control methods help address pest buildup that has already occurred and may include: mechanical control (e.g., hand weeding), biological control (e.g., biological control agents), and chemical control (e.g., synthetic pesticides). The SRP standard aims to encourage ongoing preventive pest control measures, and timely curative pest control measures if preventative methods are ineffective on their own. Pesticides are only used if and when action thresholds are exceeded and the severity of the pest is expected to cause significant damage or loss. Actions must be as targeted and effective as possible to avoid unintended impacts. Measured action can support cost reductions for farmers. Requirements 18.1-18.6 list general preventative pest control methods and conditions for proper pesticide use for six types of pests.		Existing regulations and standards in Indonesia still focus on how farmers can access and use fertilizer. While they emphasize the importance of using organic fertilizers and reducing the use of chemical inputs, as well as training and capacity building for farmers to become self-sufficient in producing fertilizers and biopesticides, implementation remains very low, and not all farmers are adopting these practices. In addition, the government has issued a policy regarding the types of active ingredients in pesticides and fertilizers that may be distributed, and which are not included in the manufacturer's obligation to provide labels containing warnings and usage guidelines on fertilizer and pesticide product packaging. However, monitoring of this regulation still needs to be improved. Regular support and written guidance are essential in the

			implementation process of the Standard SRP.
18.1	WEED MANAGEMENT Preventive weed control methods may include: - Good land preparation - Use of certified seeds - Crop rotation - Flood (if water is abundant) Farmers follow the following IPM principles and criteria: 1. Preventive weed control methods are used, before considering curative methods. 2. Herbicides are only used when other control methods (e.g. manual and mechanical weeding) are ineffective and the severity of the weeds is expected to cause significant damage or loss. 3. Herbicide selection is in accordance with national government recommendations, registered for use on rice crops, derived from a non-falsified source, and not listed on the following international lists: - Persistent Organic Pollutants in the Stockholm Convention - 1A or 1B according to the World Health Organization classification - Annex III of the Rotterdam Convention 4. Herbicide application is aimed at avoiding non-application zones. 5. Herbicide application methods are in accordance with product label instructions, following the specified pre-harvest interval, and not exceeding	1. Agricultural protection has been regulated in Law No. 22/2019 concerning Sustainable Agricultural Cultivation Systems This is the responsibility of the government, farmers, businesses, and the community. This protection is achieved through activities to prevent the entry of pests and diseases from abroad into Indonesian territory and to control them. 2. SNI 6729:2016 concerning Organic Farming Systems 3.1.1.8 Management of plant pest organisms (OPT) for weed control is carried out by heating (Flame-weeding), 3. SNI INDOGAP - SNI 8969:2021 4.2.6 Protection and preservation a. Plant protection and maintenance are carried out with reference to the control of plant pests in a preventive, responsive and eradication manner. b. Preventive efforts include determining planting patterns, determining varieties, determining planting times, planting synchronization, fertilization, irrigation, planting distance, use of biological agents and other cultivation methods. c. Responsive efforts include the use of natural enemies, biological pesticides, botanical pesticides, mechanical control, attractants, repellents and synthetic pesticides as last option. d. Eradication efforts include the destruction of plants and other vegetation to stop the spread of plant-disturbing organisms. e. Actions to control plant pests using pesticides are carried out according to recommendations. The use of synthetic pesticides is... A last resort if other methods are deemed inadequate. Pesticide use should be based on the 5 rights recommendations: correct target,	

	the specified dose (for worker safety and food safety). 6. The selection and use of herbicides is adjusted to the target weed species, taking into account the time of rice canopy/shoot closure, and considering local information on herbicide-resistant weeds (for efficiency).	correct type of pesticide, correct timing, correct dosage/concentration, and correct method of use. f. Maintenance is carried out according to the characteristics and specific needs of the plants, including replanting, weeding, and pruning. g. Pesticide use must be recorded.	
18.2	INSECT MANAGEMENT Preventive insect control methods may include: - Providing balanced nutrition (for example, avoid giving excessive nitrogen) - Promotion of beneficial natural enemies (e.g. insects, spiders) and increasing habitat diversity around rice fields - Synchronized planting - Use of resistant/tolerant varieties - Promotion of other predators (e.g. birds, bats, frogs) - Crop rotation or extended fallow periods Farmers follow the following IPM principles and criteria: 1. Preventive insect control methods are used, before considering curative methods. 2. Insecticides are only used when other control methods (e.g. insect pheromones, biological control agents) are not effective on their own, when the action threshold has been exceeded, and when the presence of a particular insect is expected to cause significant loss or damage. 3. Broad spectrum insecticides*, do not use in the first 40 days after planting in production fields (except in accordance with IPM		

	recommendations by local government extension experts). 4. Insecticide selection is in accordance with national government recommendations, registered for use on rice crops, derived from a non-falsified source, and not listed on the following international lists: - Persistent Organic Pollutants in the Stockholm Convention - 1A or 1B according to the World Health Organization classification - Annex III of the Rotterdam Convention 5. Insecticide applications are targeted to avoid non-application zones. 6. Insecticide application methods are in accordance with product label instructions, following the specified pre-harvest interval, and not exceeding the specified dose (for worker safety and food safety). 7. Insecticide selection and use responds to the target insect species, considering optimal timing for the target species, and considering local information on insecticide-resistant insects (for efficiency). *a type of pesticide designed to control a wide range of insect pests, including chewing and sucking pests, on a variety of crops and environments		
18.3	DISEASE MANAGEMENT Preventive disease control methods may include (effective for fungal, bacterial, and viral diseases): - Balanced nutrition (e.g., avoid excessive nitrogen) - Planting at optimum density		

	- Use of resistant varieties - Synchronized planting - Cleaning of host plants (e.g. weeds on embankments, rice stubble, wild rice) - Keep the environment between the soil and the plant crown dry or moist (depending on the disease) Farmers follow the following IPM principles and criteria: 1. Preventive disease control methods are used, before considering curative methods. 2. Fungicides are only used when other treatment methods (e.g., biological control agents) are ineffective and the severity of the disease is expected to cause significant damage or losses. 3. The selection of fungicides is in accordance with national government recommendations, registered for use on rice crops, derived from a non-falsified source, and not listed on the following international lists: - Persistent Organic Pollutants in the Stockholm Convention - 1A or 1B according to the World Health Organization classification - Annex III of the Rotterdam Convention 4. Fungicide applications are targeted to avoid non-application zones. 5. Fungicide application methods are in accordance with product label instructions, following the specified pre-harvest interval or at least 30 days before harvest (if a pre-harvest interval is not available), and not exceeding the specified dose (for worker safety and food safety). 6. Fungicides respond to the target disease type, taking into account recent fungal disease history		
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	and predicted weather patterns, and taking into account local information on fungicide-resistant diseases (for efficiency).		
18.4	MOLLUSC MANAGEMENT* Preventive mollusk control methods may include: - Physical control (e.g. destruction of egg masses) - - Reduction of water levels so that snail infestation is inhibited at the most vulnerable phase (i.e. early growth phase) - Promotion of predators (e.g. wild birds, ducks, fish) Use of stronger seedlings during transplanting by planting in nursery beds at low densities and planting older seedlings - Crop rotation or extended periods of fallow drying Farmers follow the following IPM principles and criteria: 1. Preventive mollusk control methods are used, before considering curative methods. 2. Molluscicides are used only when other treatment methods (e.g. collection) are ineffective and the severity of the mollusk infestation is expected to cause significant damage or loss. 3. The selection of molluscicides is in line with national government recommendations, registered for use on rice crops, derived from a non-falsified source, and not listed on the following international lists: - Persistent Organic Pollutants in the Stockholm Convention *a group of animals whose members are characterized by soft bodies and often have shells.		

18.5	HANDLING OF RATS Preventive rodent control methods may include: - Community rodent management (e.g., rat eradication campaigns, trap crops) - Synchronized planting - Use of narrow embankments (to minimize rodent habitat) - Promotion of predators (e.g. birds of prey, snakes) Farmers follow the following IPM principles and criteria: 1. Rodent control methods are preventative, before considering curative methods. 2. Rodenticides should only be used if other control measures (e.g., trapping, hunting) are ineffective on their own, if there is historical evidence of a rodent problem, and if the severity of the rodent infestation is expected to cause significant damage or loss. 3. The choice of rodenticide is in line with national government recommendations, registered for use on rice crops, derived from a non-falsified source, and not listed on the following international lists: - Persistent Organic Pollutants in the Stockholm Convention - 1A or 1B according to the World Health Organization classification - Annex III of the Rotterdam Convention 4. Rodenticide applications are targeted to avoid non-application zones. 5. Rodenticide application methods are in accordance with product label instructions,		
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	following the specified pre-harvest interval, and not exceeding the specified dose (for worker safety and food safety). 6. Rodenticides react to the target rodent species, are applied before the reproductive growth phase of the crop to avoid outbreaks during grain filling, and are placed under protective covers (e.g., bamboo tubes, coconut fiber) that are not easily accessible to birds or exposed to rain (for efficiency).		
18.6	BIRD MANAGEMENT Non-lethal bird control methods may include: - Synchronized planting - Scare/deterrent tools - Promotion of predators (e.g. birds of prey, shrikes) - Chemical bird repellent that does not kill birds and has no negative side effects		
HARVEST AND POST-HARVEST			
19	HARVEST TIME Rice harvesting is carried out at the right time to optimize grain quality. General indications of the right harvest time are: 1. When 80% to 85% of the grain per panicle is straw or yellow in color. 2. When the water content is between 21% and 24%. 3. Between 28 and 35 days after entering the dry season, or between 32 and 38 days after entering the rainy season. 4. Between 130 and 136 days after planting for late-maturing varieties, 113 and 125 for mid-maturing varieties, and 110 days for early-maturing varieties.	1. SNI INDOGAP/ SNI 8969:2021 4.3 Harvest a. Harvesting is carried out at the right age/time, method and/or means. b. Determination of the age/time of harvest is carried out by referring to the description of the variety planted. c. Harvesting is done by, among other things, collecting, plucking, and cutting. d. Harvesting equipment includes tools and/or machinery. The use of harvesting equipment takes into account the nature and characteristics of the plants and the conditions of the location. e. Post-harvest crop residues are managed and composted. Burning crop residues on land is not permitted.	The existing regulations and standards in Indonesia have the same stringency as the Standard SRP, so their implementation in the field will not be difficult. However, measuring water content is a challenge in itself because not all patents have water content measuring tools and do not always use services that have these facilities.

	5. The grain at the bottom of the panicle should be at a consistent level of firmness (firm but not brittle); grain that sticks to your hand is still too wet.	2. Technical Guidelines for Rice Post-Harvest, Riau Agricultural Technology Assessment Center, Agricultural Research and Development Agency, Ministry of Agriculture, 2014 Part A HARVEST A. Determining harvest time can be done in two ways, namely: 1. Visual observation where the visual appearance of 90 to 95% of the rice grains on the rice panicle is yellow or golden yellow. 2. Theoretical observations were conducted by observing the varieties and measuring their water content. Based on the description of rice varieties, the ideal harvest time is 30 to 35 days after flowering, or between 135 and 145 days after planting. Based on water content, the optimum harvest time is achieved after the grain moisture content reaches 22–23% during the dry season and between 24–26% during the rainy season.	
20	HARVESTING EQUIPMENT Rice is harvested with clean equipment to prevent contamination and variety mixing. Machinery (if used) is adjusted to optimal settings and operated according to crop and field conditions to achieve good quality and minimize losses due to shattering.	1. SNI INDOGAP/ SNI 8969:2021 4.1.9 Agricultural tools and machinery (alsintan) a. Agricultural machinery for planting, harvesting and post-harvesting meets standards. b. Agricultural machinery that uses fuel and lubricants does not pollute the land and the planting process. c. The agricultural machinery used is in a well-maintained condition. d. Equipment and containers that come into contact with the product must be made of materials that do not contaminate the product. e. Agricultural machinery related to measurement is calibrated periodically. 4.4.1 Collection a. Collecting the harvest to reduce losses using containers. Containers in the form of baskets, crates and burlap/plastic sacks or spread out on a tarpaulin mat plastic, mats, and/or bamboo matting. b. The container must be clean and free from contamination.	Existing regulations and standards in Indonesia are as stringent as the Standard SRP. However, their implementation has not been optimal. There are several conditions that exist at the farmer level, where the use of this harvesting tool is closely related to the requirements of 21. Drying Time, 22. Drying Place, 23. Rice Storage. These conditions are: 1. Farmers harvest their land using their own tools. Therefore, in this situation, farmers are well-versed in the harvesting equipment used.

		2. Technical Guidelines for Rice Post-Harvest, Riau Agricultural Technology Assessment Center, Agricultural Research and Development Agency, Ministry of Agriculture, 2014 Rice Harvesting Tools and Machines Rice harvesting must use tools and machines that meet technical, health, economic and ergonomic requirements. The tools and machines used to harvest rice must be appropriate to the type of rice variety to be harvested. Currently, tools and machines for harvesting rice have developed following the development of new varieties produced. Rice harvesting tools have developed from ani-ani to ordinary sickles then to serrated sickles with very sharp steel materials and finally reapers, strippers and combine harvesters have been introduced.	Furthermore, the harvest may not be entirely sold immediately; farmers will also take some home, allowing for the drying process (requirements 21 and 22) and storage of the rice (requirement 23). 2. Farmers harvest their own land but rent equipment from the harvesters present on the land during the harvest. In this situation, farmers are not aware of whether the harvesting equipment is being properly cleaned. Therefore, the harvest may not all be sold immediately; farmers will also take some home, allowing for the drying process (requirements 21 and 22) and storage of the rice (requirement 23). 3. Farmers use a slash-and-burn system. This makes the 20-23 requirement inapplicable. These conditions will significantly impact the implementation of the SRP Standard in Indonesia. Given these conditions, a reassessment to incorporate them into the requirements is warranted.
21	DRYING TIME On-farm rice drying begins within 24 hours of harvest. The final moisture content is documented and depends on the subsequent use of the rice: - Moisture content 14 - 18% for direct sales, for sale within 3 days. - Moisture content 16% or less for sale within 1 week. - Moisture content of 14% or less for storing grain for more than 1 week. - Moisture content 12% or less for storing seeds. In a single batch, the moisture content of a grain is no more than 1% after drying compared to the average moisture content (i.e., the moisture gradient). If the rice is not dried on-farm (e.g., in a farmer's concrete yard), it is transported to a drying facility (e.g., a mill) or processing facility within 12 hours of harvest.	There are no regulations or policies governing this drying time.	
22	DRYING TECHNIQUES	1. SNI INDOGAP/ SNI 8969:2021 4.4.2 Drying	

	Paddy/rice is dried using continuous drying techniques. For sun drying: 1. Layer thickness 2-4 cm. 2. The paddy/rice is turned over every certain period of time. 3. Paddy/rice is protected from rain. 4. Paddy/rice is protected from mycotoxins*, animals, and humans (e.g., on nets, mats, or canvas). For mechanical drying: 5. The use of a certified quality drying machine to produce optimal rice quality (does not change color, does not smell, and minimizes the amount of broken rice). 6. Set the dryer temperature to a maximum of 43°C for flat-bottomed rice/paddy dryers and 55°C for recirculating rice/paddy dryers. *toxic compounds produced by fungi and can contaminate various food and animal feed ingredients.	a. Drying is an effort to reduce the water content to standards for further processing or storage. b. Drying is carried out following methods and procedures that suit the characteristics of the plant to maintain quality. c. Drying in the sun is done on plastic tarpaulin, mats, woven bamboo and/or cement/tile floors. d. The drying base must be clean and free from contamination. e. Drying with a machine takes into account the characteristics of the harvest. 2. Technical Guidelines for Rice Post-Harvest, Riau Agricultural Technology Assessment Center, Ministry of Agriculture, Republic of Indonesia 2014 • Drying Rice using sunlight by drying. Here's how to dry it with a drying floor: 1) Dry the grain on the drying floor with a thickness of 5 cm - 7 cm for the dry season and 1 cm - 5 cm for the rainy season. 2) Turn it over every 1 - 2 hours or 4 - 6 times a day using a wooden rake. 3) Drying time: morning at 08.00 - 11.00, afternoon at 14.00 - 17.00 and tempering time at 11.00 - 14.00. 4) Usually the grain reaches a water content of 12-14% when dried for 2-3 days. 5) Collect it with a rake, shovel and broom. • How to dry with a tarpaulin/plastic base. Here's how to dry with a tarpaulin/plastic base: 1) Dry the grain on a tarpaulin/plastic base with a thickness of 5-7 cm for the dry season or 1-5 cm for the rainy season. 2) Turn it over regularly every 1-2 hours or 4-6 times a day. Turning is recommended without using a rake because it can cause the base to tear. 3) Drying time: morning at 08.00 - 11.00, afternoon at 14.00 - 17.00, and tempering time at 11.00 - 14.00. 4) Collect it by rolling it directly. • Drying Rice with Artificial Dryer with Flat Bed Dryer and Continuous Flow Dryer, there are no thickness and temperature rules for this method	
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23	RICE STORAGE Rice is stored safely to maintain its quality, through airtight storage or the following measures: 1. Prevent contamination with hazardous substances, such as agricultural chemicals 2. Maintain a moisture content of 14% or less. 3. Prevents re-wetting. 4. Prevent pest damage without fumigation*. 5. Rice is cleaned before storage (removing dirt, weeds and insects). *a method of pest control or extermination of harmful microorganisms by filling an entire area with gaseous pesticides, or fumigants, to paralyze or poison the pests within it	1. SNI INDOGAP/ SNI 8969:2021 4.1.10 Buildings for post-harvest handling a. Buildings used for post-harvest handling meet technical and environmental sanitation requirements. Technical requirements include layout and size. space and ventilation. Environmental sanitation requirements include cleaning facilities, water disposal and waste processing. b. Storage space meets standards for the risk of damage and contamination. c. Building provisions for agricultural commodity warehouses refer to established standards. 4.4.8 Storage a. Storage is carried out to secure and extend the product's useful life. b. Product storage is carried out on wooden/plastic pallets in a room with temperature and humidity according to the nature and characteristics of the product and free from warehouse pests. c. Temperature and humidity during the storage process must be recorded. d. Stored products have an identity in the form of a label or information on the packaging that is documented. 2. SNI 6729:2016 concerning Organic Agriculture 4.1 Post-harvest management a) The integrity of organic food products must be maintained throughout the food chain from harvest to packaging. b) Processing using appropriate and careful methods by minimizing the use of food additives and auxiliary materials. c) Ionizing radiation for pest control, food preservation, disease eradication or sanitation is not permitted. d) Fumigation with methyl bromide and phosphine is prohibited except with CO₂, N and ozone.	
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		3. Technical Guidelines for Rice Post-Harvest, Riau Agricultural Technology Assessment Center, Ministry of Agriculture, Republic of Indonesia 2014 • Grain Storage with Bulk System using Silo • Storage of Paddy with Packaging/Containers	
24	RICE STUB Rice stubble is managed sustainably to reduce greenhouse gas emissions, minimize environmental impacts, and maintain or improve soil quality. Rice stubble is: 1. Does not burn. 2. Allow sufficient time (at least 3 weeks) for aerobic decomposition before wetting	There are no regulations and policies governing the management of rice stubble	There is no specific guideline on managing these stumps, at the farmer level it is usually done by burning, processing with soil, and very few carry out processing beforehand, for example fermentation before land processing.
25	STRAW Rice straw is managed sustainably to reduce greenhouse gas emissions, minimize environmental impacts, and maintain or improve soil quality. Rice straw is: 1. Does not burn. 2. Allow sufficient time (at least 2 weeks) for aerobic decomposition if rice straw is left in the field or plowed under. 3. Animal waste collected and used as animal feed is returned to the land. Or it is collected, composted, and returned to the land.	There are no regulations and policies governing straw management	There is no specific guide on straw management, at the farmer level usually by burning straw on or around the land, selling straw for animal feed but the manure is not returned to the land, and very few return straw to the land. This condition makes the implementation of the Standard SRP quite difficult to do.
HEALTH AND SAFETY			
26	SAFETY AND HELP INSTRUCTIONS FIRST Workers, including household members, receive regular safety instructions on how to prevent work-related accidents or illnesses, where to access a first aid kit, and how to contact a health care provider. First aid kits should be well-labeled and readily	1. Law No. 1 of 1970 concerning Occupational Safety Article 9 paragraphs 1 and 2 state that employers are obliged to provide work safety instructions and training to all workers, including families who work on agricultural land. 2. Minister of Manpower Regulation No. PER.15/MEN/VIII/2008 concerning First Aid in Accidents Article 2 and Article 4 state that	Indonesia already has occupational safety guidelines. However, enforcement at the agricultural level remains low. Since occupational safety measures are already aligned with the SRP, these indicators may be

	available on the farm or located at a designated medical center known to and accessible to farmers in the group.	every workplace is required to provide a complete first aid kit, labeled and easily accessible to workers. 3. Minister of Manpower Regulation No. 5 of 2018 concerning Occupational Health and Safety (K3) in the Work Environment Article 6 and Article 9 state that employers are obliged to provide periodic K3 training and record the implementation of this training. 4. SNI 8969:2021 INDOGAP clause 4.1.8.1 Labor for Planting Process e. Workers have the knowledge and skills to implement Occupational Health and Safety (K3).	easier to accept, but difficult to implement.
27	TOOLS AND EQUIPMENT Equipment and tools for agricultural operations and post-harvest processes are functional and efficient in their use through regular and proper maintenance and calibration. Equipment is stored properly. Pesticide application equipment (if pesticides are applied) is maintained and calibrated to prevent leaks or contamination.	1. SNI 8969:2021 INDOGAP clause 4.1.9 Agricultural Tools and Machines Agricultural Tools and Machines c. The agricultural machinery used is in a well-maintained condition. d. Equipment and containers that come into contact with the product must be made of materials that do not contaminate the product. e. Agricultural machinery related to measurements is calibrated periodically.	Indonesian standards and regulations are generally aligned with the SRP standards. This indicator may be easier to implement.
28	PESTICIDE APPLICATOR TRAINING Pesticide applicators receive training and implement good practices regarding the safe handling and use of pesticides, including: - Explanation of the name, toxicity, health risks and other relevant information regarding all substances to be used. - Correct substance handling techniques. - Precautions to reduce the likelihood of damage to health and the environment caused by substances. - Emergency procedures for cases involving poisoning or improper contact with substances.	1. Minister of Agriculture Regulation No. 43/Permentan/SR.330/8/2019 Regarding Pesticide Registration, Article 93 paragraphs 1 and 2 state that users of restricted pesticides are required to attend training on the use of restricted pesticides. Training on the use of restricted pesticides as referred to in paragraph (1) is carried out by holders of registration numbers and permanent pesticide permits for restricted pesticide users. 2. SNI 8969:2021 INDOGAP 4.1.8.1 Labor for the planting process b. Workers must have the knowledge and skills to handle and use pesticides correctly. e. Workers have the knowledge and skills to implement Occupational Health and Safety (K3).	Indonesian standards and regulations are generally aligned with the SRP standards. This indicator may be easier to implement.

29	PERSONAL PROTECTIVE EQUIPMENT (PPE) Pesticide applicators use functional and good quality PPE as recommended on the product label, including: - Chemical resistant gloves - Face mask - Skin protection (e.g., long-sleeved shirts, long pants, boots) - Eye protection during mixing and application (safety glasses)	Regulation of the Minister of Manpower and Transmigration of the Republic of Indonesia Number 8 of 2010 Article 4 paragraph 1 (d) states that PPE must be used in workplaces where: agricultural, plantation, forest clearing, forestry, wood processing or other forest products, animal husbandry, fisheries and health fields are carried out; SNI 8969:2021 INDOGAP clause 4.1.8 Labor e. Workers have the knowledge and skills to implement Occupational Health and Safety (K3). Regulation of the Minister of Manpower of the Republic of Indonesia Number 3 of 1986 concerning Safety and Health Requirements in Workplaces that Manage Pesticides	Indonesian standards and regulations are generally aligned with the SRP standards. This indicator may be easier to implement.
30	WASHING AND CHANGING A dedicated area for washing PPE, showering, and changing clothes is available for personnel after pesticide application. All PPE worn during pesticide application is washed after use and should not be taken indoors. This designated area is separate from the area used for washing household clothes.	Regulation of the Minister of Manpower of the Republic of Indonesia Number 3 of 1986 concerning Safety and Health Requirements in Workplaces that Manage Pesticides Article 15: For workers who manage pesticides, the management must: - Provide facilities for caring for and washing work clothes and personal protective equipment as well as special laundry; - Provide a special storage area for work clothes and personal protective equipment separate from the storage area for everyday clothes; - Provide water, soap, towels and a place to shower; - Provide facilities for eating and drinking that are located safely away from pesticides; - Make a report and submit it no later than 2 (two) months after the health check to the Minister through the local Regional Office/Kandep; - Create procedures and emergency response units	Indonesian standards and regulations are generally aligned with the SRP standards. This indicator may be easier to implement.
31	APPLICATION LIMITATIONS Pesticides should not be used by pregnant or breastfeeding women, by people under 18 years of age, or by people suffering from chronic illnesses or respiratory diseases.	Regulation of the Minister of Manpower of the Republic of Indonesia Number 3 of 1986 concerning Safety and Health Requirements in Workplaces that Manage Pesticides Article 2 states that workers employed to manage pesticides must meet the requirements, such as being 18 years of age or older and undergoing a health examination by an examining doctor.	Indonesian standards and regulations are generally aligned with the SRP standards. This indicator may be easier to implement.

32	RE-ENTRY TIME Time to re-enter the field after pesticide application: 1. Follow the directions on the product label, or after 48 hours if the label does not provide a recommendation. 2. Clearly communicated.	1. Regulation of the Minister of Manpower of the Republic of Indonesia Number 3 of 1986 concerning Safety and Health Requirements in Workplaces that Manage Pesticides Article 2 paragraph 1 states that workers employed to manage pesticides must not be exposed to them for more than 5 hours a day and 20 hours a week. 2. Regulation of the Minister of Agriculture of the Republic of Indonesia No. 43 of 2019 concerning Pesticide Registration Article 87 paragraph 5 where the Label Information as stated in Attachment V which is an inseparable part of this Ministerial Regulation contains safety instructions.	Regulations and standards in Indonesia have the same stringency as the Standard SRP, so that implementation can be done
33	STORAGE OF PESTICIDES AND CHEMICALS Pesticides and inorganic fertilizers (including partially empty containers) are: 1. Labeled 2. Store in a locked place separate from fuel, food, and grain/rice and out of reach of children.	1. Regulation of the Minister of Manpower of the Republic of Indonesia Number 3 of 1986 concerning Safety and Health Requirements in Workplaces that Manage Pesticides Article 8 relates to pesticide warehouses or storage areas 2. Regulation of the Minister of Agriculture of the Republic of Indonesia No. 43 of 2019 concerning Pesticide Registration Article 87 paragraph 5 where the Label Information as stated in Attachment V which is an integral part of this Ministerial Regulation contains storage instructions.	Indonesian standards and regulations are generally aligned with the SRP standards. This indicator may be easier to implement.
34	PESTICIDE DISPOSAL Empty pesticide containers, excess pesticides, and obsolete pesticides (e.g., past their shelf life or banned) are disposed of properly, through collection, return, or disposal services, or through good pesticide disposal practices. Good pesticide disposal practices include: 1. The empty container is rinsed three times with water. The remaining spray and rinse water are sprayed onto unmanaged areas of the farmland, away from water bodies.	1. Regulation of the Minister of Manpower of the Republic of Indonesia Number 3 of 1986 concerning Safety and Health Requirements in Workplaces that Manage Pesticides Article 14 (1) Destruction of pesticides and/or pesticide containers must be carried out in a manner that does not endanger workers and the environment in accordance with applicable provisions. (2) The management must submit a report on the destruction of pesticides to the Minister. 2. SNI 8969:2021 INDO GAP clause 4.2.5 Fertilization c. Fertilizer storage is carried out to reduce the risk of water and environmental pollution and not to contaminate the resulting product.	Indonesian standards and regulations are generally aligned with the SRP standards. This indicator may be easier to implement.

	2. The containers are rendered unusable by crushing or puncturing them before burying them on farmland. 3. Containers are buried in designated areas (at least 20 meters from water bodies) and are inaccessible to children or unauthorized persons. 4. Outdated pesticides are returned to the distributor or, if not possible, disposed of in a manner that minimizes exposure to humans and the environment.	3. Regulation of the Minister of Agriculture of the Republic of Indonesia Number 22 of 2021 concerning Good Horticultural Practices Article 36 paragraph 2 Apart from the chemicals as referred to in paragraph (1), handling, storage and disposal must be carried out in accordance with instructions so as not to pollute the product and the environment.	
LABOR RIGHTS			
35	CHILD WORKERS Children under the age of 15 are not employed as workers. Family members under the age of 15 who live on the family farm may participate in agricultural activities consisting of light tasks appropriate to their age, which provide them with the opportunity to develop skills, only if these activities: 1. It does not harm their health and development. 2. Does not interfere with school and free time. 3. Under adult supervision. 4. Not exceeding 14 hours per week. The age of the worker is always verified and documented.	1. Law No. 13 of 2003 concerning Manpower, which was partially amended by Law No. 6 of 2023 concerning the Stipulation of Government Regulation in Lieu of Law No. 2 of 2022 concerning Job Creation to Become Law • Article 68 states that employers are prohibited from employing children. • Article 69 paragraph 1 The provisions as referred to in Article 68 may be exempted for children aged between 13 (thirteen) years and 15 (fifteen) years to do light work as long as it does not interfere with physical, mental and social development and health. 2. Employment Practices to Address Child Labor: A Guide for Companies and Supply Chains in the Agricultural Sector 2024 mentions the principles that companies need to adhere to: • Zero tolerance for child labor • Zero tolerance for any form of forced or compulsory labor • Freedom of association and effective recognition of the right to collective bargaining • A decent wage • Social protection • Zero tolerance for discrimination in the workplace • Safe and healthy work environment	Indonesian standards and regulations are generally aligned with the SRP standards. This indicator may be easier to implement.
36	DANGEROUS WORK All workers comply with applicable safety regulations in the workplace (e.g., going indoors in case of a fire risk). Children under 18 are not assigned to perform work that could endanger their safety and health. Children under 18 are not engaged in hazardous work or work that could endanger their physical, mental, or moral well-being. They are not:		Indonesian standards and regulations are generally aligned with the SRP standards. This indicator may be easier to implement.

	1. Working in hazardous locations. 2. Working with dangerous machines, equipment, and tools (as defined by national laws and regulations). 3. Carrying a heavy load. 4. Working with hazardous substances. 5. Night workers. The age of workers is always verified and documented.		
37	EDUCATION Children living on farms of compulsory school age attend school all year round.	Republic of Indonesia Law Number 20 of 2003 concerning the National Education System Article 6 (1) Every citizen aged seven to fifteen years is obliged to attend basic education.	Indonesian standards and regulations are generally aligned with the SRP standards. This indicator may be easier to implement.
38	FORCED LABOR No forced, compulsory, or enslaved labor is used, including forced and bonded labor, prison labor, or the use of extortion, debt, threats, fines, or penalties. The following criteria are met: 1. It is not permissible to withhold (part of) a worker's salary, allowances, property, or documents (e.g. identity cards and travel documents) in order to force the worker to continue working. 2. Workers are not charged any recruitment or contract fees that would require them to owe money to the farm (or recruitment agency). 3. Workers are allowed to leave the farm site at the end of their shift. 4. The worker's regular working hours do not exceed 48 hours per week, with a minimum of 1 full day of rest for every 6 consecutive working days. 5. Spouses and children of contract workers are not forced to work on farms.	There are no regulations or policies governing forced labor hours.	There is no baseline data or research data on forced labor, compulsory labor, or slave labor used, including trafficked and bonded labor, labor by prisoners; However, further research into the forms of slave labor used, including trafficked and bonded labor, convict labor, or the use of extortion, debt, threats, fines, or punishment is strongly recommended.

	6. Agricultural activities do not participate in or permit human trafficking.		
39	DISCRIMINATION There is no discrimination or disrespectful treatment of workers, including working family members. The following criteria are met: 1. No discrimination based on gender, ethnic background, national origin, religion, disability, sexual orientation, pregnancy, membership of a labor organization, or political affiliation. 2. There shall be no distinction, exclusion, or preference prejudicial to equality of opportunity in matters of recruitment, training, job assignment, benefits, remuneration, advancement, termination, retirement, or other employment-related decisions. 3. There should be no job-related health tests as a condition of employment (except for a legitimate drug test). 4. There is no behavior, gestures, language, or physical contact that constitutes sexual harassment, coercion, or threats. 5. No intimidation or physical punishment.	There are no regulations or policies governing forced labor hours.	There is no baseline data or research data on worker health and safety, child labor and youth involvement and women's empowerment; however, further research and assessment on this topic is recommended to be conducted with members of milling associations, members and farmer groups/trade unions and or trade unions in the forestry and agriculture sectors. However, these requirements can be implemented
40	FREEDOM OF ASSOCIATION Workers have the right to establish and/or join associations of their choice without interference and to participate in collective bargaining regarding working conditions. The following criteria are met: 1. Workers can freely establish and join workers' organizations, both internal (e.g., workers' representatives) and external (e.g., trade unions), and take part in collective bargaining on working conditions.	Republic of Indonesia Law Number 21 of 2000 concerning Workers' Unions/Labor Unions Regarding Membership, as stated in Article 12, trade unions/labor unions, federations and confederations of trade unions/labor unions must be open to accepting members without differentiating between political affiliations, religion, ethnicity and gender.	There are no restrictions on farmers' freedom of association, and there are approximately 6 confederations, 100 federations, and 6,808 industrial unions. However, most rice farmers are outside industrial relations, placing wages and labor on rice fields, as well as the role of farmer groups, in a somewhat unique position. There is little research evidence or

	2. Labor organizations are allowed to carry out activities on agricultural land. 3. The effective functioning of labor organizations is not hindered and representatives of these organizations are not discriminated against. 4. Farmers adhere to collective bargaining agreements.		reliable reporting on the role of farmer associations in the rice sector in Indonesia, necessitating a baseline assessment. However, these requirements can be implemented
41	WAGES The following criteria are met: 1. Workers' wages meet or exceed the minimum wage established by local or national laws and regulations. If wages are voluntarily negotiated between employers and workers' associations, the negotiated wage amount applies to all workers covered by the negotiated agreement. This includes providing equal pay to men and women for work of equal value. 2. Wages are paid on time and regularly. 3. Wages are paid in legal tender, or in another form acceptable to the worker without creating any form of dependency. 4. Overtime is voluntary and is paid according to rates established by local or national laws and regulations, or as collectively negotiated.	Law No. 13 of 2003 concerning Manpower, which was partially amended by Law No. 6 of 2023 concerning the Stipulation of Government Regulation in Lieu of Law No. 2 of 2022 concerning Job Creation to Become Law • Article 88 (1) Every worker/laborer has the right to a decent living for humanity. (2) The Central Government determines wage policies as one of the efforts to realize the rights of workers/laborers to a decent living for humanity. (3) Wage policies as referred to in paragraph (2) include: a. Minimum wages; b. Wage structure and scale; c. Overtime wages; d. Wages for not coming to work and/or not doing work for certain reasons; e. Forms and methods of payment of wages; f. Things that can be calculated with wages; and g. Wages as the basis for calculating or paying other rights and obligations. • Article 88C (1) The Governor is obliged to determine the provincial minimum wage. (2) The Governor may determine the district/city minimum wage. (3) The determination of the district/city minimum wage as referred to in paragraph (2) is carried out if the calculation results of the district/city minimum wage are higher than the provincial minimum wage. (4) The minimum wage as referred to in paragraph (1) and paragraph (2) is determined based on economic and employment conditions.	Regulations on labor wages in Indonesia still focus on workers who are affiliated with organizations or agencies. Agricultural laborers typically use a different calculation, typically using transactions based on... "informal agreements" regarding wages, amounts, transaction methods, related subsidies, or other matters within customary principles and practices. However, service relationships exist beyond traditional and culturally related transactions, so basic research is needed. However, these requirements can be implemented

IV. CONCLUSION AND RECOMMENDATIONS

4.1 Conclusion

The development of the National Interpretation Guideline (NIG) for the Sustainable Rice Platform (SRP) standard for sustainable rice cultivation in Indonesia confirms that the global SRP Standard version 2.2 is fundamentally relevant as a framework for sustainable rice farming practices. However, adjustments are still required to reflect Indonesia's agroecological, socio-cultural, economic, institutional, and national regulatory contexts. The analysis indicates that updates have been made to align the SRP requirements with local conditions. These adaptations are reflected in the strengthening of compliance with national regulations, such as the integration of the Sustainable Food Agricultural Land Protection (LP2B) principle, the adjustment of technical cultivation thresholds (e.g., soil salinity, water management, harvesting time, and drying techniques), as well as the tightening of occupational health and safety and labor rights provisions in accordance with Indonesian labor regulations. In addition, the Indonesian Sustainable Rice Cultivation Standard expands the scope of technical indicators by incorporating practices commonly applied by local farmers, such as preventive pest management, self-recording of production inputs, and realistic straw management options within the socio-economic context of Indonesian farmers.

Findings from three studies conducted under the Low Carbon Rice Project further reinforce the urgency and relevance of developing the Indonesian NIG SRP. A sustainability index assessment across five major rice-producing districts shows that rice cultivation practices in Indonesia generally fall within the moderately sustainable category, with relative strengths in the economic, social, and institutional and policy dimensions. Nevertheless, the environmental and technological dimensions remain key weaknesses, as indicated by high dependence on chemical inputs, low adoption of technologies such as alternate wetting and drying (AWD), limited use of personal protective equipment, and inadequate recording and efficiency in the use of production inputs.

The feasibility study on scaling up SRP implementation toward one million hectares of sustainable rice farmland indicates that regional readiness varies significantly and is largely determined by institutional capacity and water resource management. Boyolali Regency emerges as the region with the highest level of readiness and the potential to serve as a lighthouse or pilot model for SRP implementation, while other regions require tailored replication strategies and capacity-building efforts aligned with their respective local conditions. This underscores that SRP implementation in Indonesia cannot be applied uniformly, but must instead be phased, tiered, and based on regional readiness.

Furthermore, the study on incentive schemes confirms that the success of the transition toward sustainable and low-carbon rice cultivation systems is highly dependent on adequate policy support and economic incentives. The central government is viewed as a key actor in setting policy directions, providing incentives, and facilitating cross-stakeholder collaboration. A special rice price incentive scheme is considered the most effective instrument to motivate farmers to adopt and maintain sustainable rice cultivation practices, while simultaneously fostering the development of a fair and transparent sustainable rice supply chain.

In Indonesia, agricultural cultivation standards have been regulated by the government through various policies, such as organic agriculture standards and Indonesian Good Agricultural Practices (IndoGAP). Nevertheless, the Indonesian SRP Standard serves

as a complementary framework to existing standards, as it not only emphasizes technical cultivation aspects but also comprehensively addresses social, institutional, and policy dimensions, particularly those related to the protection of farmworkers' rights, thereby enhancing occupational security in field practices. Overall, the National Interpretation Guideline (NIG) for SRP in sustainable rice cultivation in Indonesia can be concluded as both a guideline and a performance assessment tool for rice cultivation practices, supporting stakeholders in formulating and implementing policies aligned with Indonesia's agricultural development vision and mission, as well as serving as a reference for facilitators, extension agents, and farmers to jointly and progressively implement sustainable agricultural practices.

4.2 Recommendations

The strategic recommendations that can be formulated based on the development of the National Interpretation Guideline (NIG) for SRP Indonesia include:

1. **Phased and Region-Readiness–Based Implementation**
The implementation of SRP Indonesia should be carried out gradually, in line with regional agroecological and institutional capacities. Regions with high readiness can serve as pilot or demonstration models, while other regions should focus on capacity strengthening prior to full-scale implementation.
2. **Strengthening SRP Institutions and Governance**
Institutional strengthening is required, particularly for farmer institutions and farmer groups, supported by government, communities, and local institutions that play a specific role in promoting sustainable rice. This includes, for example, district-level multistakeholder forums that have been established in Boyolali, Klaten, Sragen, Ngawi, and Madiun Regencies.
3. **Enhancing Farmer Capacity and Extension Services**
The government and relevant stakeholders need to strengthen farmer training and extension systems, particularly in environmentally friendly cultivation technologies, water and nutrient management, low-emission agricultural practices, and increased awareness of occupational health and safety. Fundamentally, the role of field facilitators in addressing technical challenges—through more frequent visits and improved communication—also needs to be enhanced to provide both technical and psychological support to farmers. The shortage of extension workers at the field level remains a key challenge, underscoring the need to increase the number of qualified agricultural extension personnel.
4. **Infrastructure Support and Water Management**
Given the critical role of irrigation in sustainable rice cultivation, investment in the rehabilitation and management of irrigation networks, along with strengthening farmers' capacity in water management, is a key prerequisite for the successful implementation of SRP.
5. **Development and Integration of Incentive Schemes**
Incentive schemes, particularly price incentives for low-carbon sustainable rice, need to be developed and integrated into national policies and green financing systems. Such incentives are essential to enhance farmers' motivation, ensure the sustained adoption of SRP practices, and strengthen sustainable rice value chains.

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The Sustainable Rice Platform (SRP) Standard for Indonesia*

Indonesia faces challenges in sustaining rice production amid rising demand, land conversion, soil degradation, water scarcity, climate change impacts, and weak institutional coordination. Although existing national regulations and standards support sustainable agriculture, they remain fragmented and insufficiently tailored to rice as a strategic commodity. Empirical research conducted in five major rice-producing districts shows that current rice cultivation practices are only moderately sustainable, with significant gaps in water efficiency, environmental management, technology adoption, post-harvest handling, and policy harmonization. These findings highlight the urgent need for a unified, science-based, and context-specific national framework to guide the transformation of the rice sector toward sustainability.

The Sustainable Rice Platform (SRP) provides a globally recognized standard that integrates environmental, social, economic, and governance dimensions, alongside performance indicators and verification mechanisms. This document presents the **National Interpretation Guideline (NIG)** for Indonesia as a strategic instrument to adapt the SRP Standard to national agroecological, regulatory, and socio-institutional conditions. Developed through multi-stakeholder consultations, regulatory analysis, and field-based evidence, the NIG establishes a structured standard for sustainable rice cultivation and governance in Indonesia. It is intended to serve as an official reference for policy development, farmer support programs, and sustainability verification, positioning SRP adoption as both a technical solution and a broader development strategy for resilient, inclusive, and sustainable rice systems in Indonesia.

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