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Situational Report
2nd Quarter 2026



Rumpin, West Java, Indonesia

Data 1

13.1% of Indonesian consumers are willing to pay a premium for sustainably produced or sourced goods, surpassing the global average of 9.7%, according to PwC's 2024 APAC Voice of the Consumer Survey.

Data 2

In 2024, Indonesia's Agricultural Insurance Program (AUTP) covered 278,832 hectares of agricultural land and benefited 464,957 farmers, providing a financial risk-management mechanism to strengthen farmers' resilience to climate-related production risks.

Data 3

According to the 2024 Farmer Perception Survey by LaporIklim, 98.7% of 304 sampled farmers in 24 Provinces (Sumatera, Java, and Sulawesi) believed that climate change is an ongoing phenomenon, most commonly perceiving it as extreme changes in weather.

An Overview of Indonesia's Agribusiness Landscape

- **The agriculture sector has been a vital cornerstone of Indonesia's economy through its prominent role in underpinning long-term development goals.** Agriculture and fisheries sectors have accounted for 13% of Indonesia's Gross Domestic Product for the last decade. As the sector grows by approximately 2% per year from the mid-2010s onwards, Indonesia has maintained a decent position within the global food system. The latest data from the U.S. Department of Agriculture (USDA) shows that Indonesia currently holds the #1 rank in global palm oil production volume (equivalent to 57% of global output) as well as the #4 rank in global coffee and rice production volume (7% of global outputs consecutively). Indonesia relies heavily on its own farmers and fishers to ensure its food security.

According to the 2024 Food Balance Sheet from Statistics Indonesia, domestic agriculture accounts for more than three-quarters of the nation's key staple supply, including rice, leafy vegetables, seafood, poultry, and eggs. Indonesia's capacity in translating its production base into high-value global export growth has been proven for several strategic commodities. Based on the UN Comtrade database, Indonesia is the largest crude palm oil exporter, the third largest coffee beans exporter, as well as the tenth largest cocoa exporter worldwide. The contributions of the agriculture sector extend beyond primary production through value-added creation in downstream value chains—every additional IDR 1 million in final demand for agricultural products increases domestic outputs by IDR 1.32 million based on Indonesia's 2020 Input-Output Table.

- **The agriculture sector stands as Indonesia's primary engine of labor absorption and serves as a vital lifeline for millions of people in rural areas.** Although the number of farmers nationwide gradually decreased from 31.7 million in 2013 to 28.1 million in 2023, the sector actively drives job creation for approximately 20% of Indonesia's labor force. Most of the domestic farmers are food crop growers (54%), livestock farmers (42%), and plantation crop growers (38%). As the vital buffer for workforce stability, agriculture plays a critical role in supporting the livelihoods of an estimated 45.7% of poor households in Indonesia, according to the National Socio-Economic Survey March 2025. Persistent impoverishment among rural farmers stems from low-productivity subsistence farming and high vulnerability to external shocks.

- **Aging demographics and low educational attainment among existing farmers pose a major challenge for future development of Indonesia's agricultural sector.** Agriculture Census 2023 recorded that 66% of individual farmers in Indonesia are already older than 45 years old—even 39% of them are already close enough to the average normal retirement age. The 2023 census also reveals Indonesian farmers typically spend shorter-than-average time in formal education, with 61% of them having yet to complete Junior High School qualification. Educational gaps among farmers often limit farmers' ability to successfully integrate modern technologies and advanced farming methods into their operations. Inadequate educational attainment also restricts farmers' access to essential market data, impairing their awareness of pricing trends and diminishing their leverage when bargaining for inputs and sales.

- **Limited resilience among Indonesian farmers exposes severe structural flaws within the country's agriculture sector.** The 2023 survey shows that key support systems rarely reach domestic farmers—only 37% of them received agricultural assistance, 6% were enrolled in training programs, and a tiny 0.5% insured their agricultural assets. Most Indonesian farmers operate independently and without formal bookkeeping. The 2023 census data show that 94% of farmers do not track their daily financial transactions, while 73% of farmers refrain from becoming a member of any formal agricultural groups. Furthermore, findings from a 2024 Bayer survey show that uptake of digital technologies, such as precision application, remote monitoring, and forecasting, is still in its early stages in Indonesia, with a mere 13% of participating smallholders actively using digital technologies on their farms.

- **The ultimate sustainability of Indonesia's agricultural sector remains a subject of considerable debate.** Growing consumer consciousness regarding environmental and social responsibility necessitates the adoption of sustainable sourcing practices to safeguard market share and brand reputation. Global Eating, Drinking & Sustainability Survey conducted by Iris in 2021 revealed that 6 in 10 (58%) of Indonesians prioritize eco-friendly options in their purchase decision, slightly higher than the global average of 51%. In response to the respective market response, sustainable sourcing also emerges as a growing practice among Indonesian private-sector actors, with 19 multinational companies already committed to adopting sustainable sourcing practices by 2030, according to the 2021 Indonesia Business Council for Sustainable Development (IBCSD) Report. Though far from the only path to sustainability, certification remains its most recognizable benchmark. Sustainability certification plays a crucial role in helping farmers align their operations with environmental and social responsibility goals, but its implementation, especially among smallholder farmers, remains low. In the oil palm case, only 1% of smallholder land had attained certified status by October 2025 even though the Ministry of Agriculture Decree No. 33/2025 mandates universal ISPO (Indonesian Sustainable Palm Oil) certification for all Indonesian plantation farmers. Similar patterns can be identified at other commodities. The predominant share of Indonesian cocoa and



coffee plantations remained uncertified by 2024, with Rainforest Alliance standards covering just 1.2% of total cocoa plantations and 2.0% of domestic coffee estates. In a separate instance, A 2022 survey by the Indonesia Organic Alliance indicates that certified organic production remains a niche sector, representing less than 1% of the total area dedicated to rice, coconut, and tea. Although large- and medium-scale enterprises may possess the resources to comply with sustainability standards, smallholder farmers face significant obstacles in adopting the new standards and risk exclusion from sustainable value chains due to the lack of financial resources, formal institutional backing, and local access to certification services.

- **Two flagship initiatives from the current regime, Makan Bergizi Gratis (MBG) and Koperasi Desa/Kelurahan Merah Putih (KDKMP), trigger a sudden surge in domestic demand for agri-food commodities.** MBG is a top-down program that aims to reduce stunting and malnutrition in early childhood via the distribution of free nutritious meals to children and pregnant women. National Nutrition Agency (BGN), as MBG's coordinator, delegates food sourcing, procurement, and distribution to Nutrition Fulfillment Service Offices (KPPGs) and Nutrition Fulfillment Service Units (SPPGs). According to several reports, MBG requires at least 2.5 tons of rice, 2.6 tons of chicken, 1.6 tons of egg, 1,300 units of tempeh, and hundreds of kg of vegetables every month. On the other hand, KDKMP, which involves the establishment of many rural cooperatives, is designed as a distribution hub for food and basic necessities at the village level. KDKMP will serve as an off-taker for agricultural and fisheries outputs since the Government of Indonesia plans to equip the respective rural cooperatives with cold storage facilities. In relation to other social security programs, KDKMP will also become the key food supplier for the SPPG from MBG and the distribution channel of social assistance (bansos) for impoverished households.

Agriculture's Double-Edged Sword:
Vulnerable Target, Notable Emitter



- **The agriculture sector is highly vulnerable towards the impacts of climate change.** Gradual increase in surface temperatures, coupled with rising sea level and unpredictable extreme weather events, continues to disrupt harvest plans and crop yields, resulting in unexpectedly low profit margins for farmers. Research by Setiyanto and Pasaribu in 2021 suggested that climate change potentially lowers the nationwide production volume of shallots, chilies, and potatoes by 1-1.2% annually compared to normal conditions. Another study from Yuliawan and Handoko in 2016 demonstrated that a single degree Celsius rise in annual temperature leads to substantial rice yield losses—dropping up to 11% in rainfed farms and 14% in irrigated lands. Furthermore, lower oil palm production in Indonesia can also be anticipated under the climate change regime, as indicated by a study from Go, Tan, and Yiew in 2024. USAID predicted that aggregate economic loss in Indonesia's agriculture sector because of climate change could potentially reach IDR69 trillion in 2050. Declining agricultural production can directly spark inflationary pressures, a relationship proven in a 2018 study by Bank Indonesia's personnel. Climate-sensitive crops, such as rice, chilies, and shallots, are among strategic commodities whose price level is actively monitored by the Food Supply and Price Information System (SP2KP), pursuant to Presidential Regulation 59/2020; and (ii) become the components of volatile goods in the consumer price index. This price sensitivity carries direct consequences for poverty, as Indonesia's low-income households allocate 58.8% of their expenditure to food, compared to only 34.7% among higher-income households. A 2023 study by Faharuddin, Yamin, Mulyana, and Yunita found that a 20% increase in the price of rice alone raises Indonesia's poverty headcount ratio by 1.36 percentage points, with vegetables and fish contributing a further 0.74 and 0.64 percentage points respectively, and with impacts consistently more severe in rural areas.



- **Agriculture presents a distinct paradox—the sector is both climate change's prime target and, simultaneously, its crucial remedy.** According to the Greenhouse Gas (GHG) Inventory and MRV Report 2024, activities in the agriculture sector emitted 104 Tg CO2e of greenhouse gas (GHG) in 2023, which accounted for 7.7% of total GHG emissions nationwide. While agriculture is not the primary source of GHG emissions, agricultural decarbonization offers better outcomes for farmers and rural livelihoods. Climate mitigation measures in the agricultural sector are emerging progressively across Indonesia at present, including some of the key interventions that IPCC advocated: agroforestry, manure management, and biochar application. Agroforestry, an intercropping system that combines several types of plants in one land area, has been implemented by at least 3% of individual farmers across Indonesia in 2023. It mitigates climate change primarily through carbon sequestration and avoids deforestation. The awareness for agroforestry has increased in several rural communities after experiencing disasters, notably landslides or flash floods, and a decline in soil fertility. Another mitigation measure in the husbandry subsector, livestock manure conversion into biogas, provides an opportunity to contribute positively to the existing Nationally Determined Contribution (NDC) targets by capturing harmful methane emissions from unprocessed animal waste. Most of the biogas utilization is currently limited to household cooking purposes, as widespread commercial adoption of biogas is hindered by numerous techno-economic constraints such as insufficient feedstock availability and high installation and logistics costs, especially in rural/remote areas (IRENA, 2024). Lastly, biochar—a carbon-rich substance produced through the oxygen-deprived heating of organic waste—is widely manufactured and applied in Indonesia, primarily within plantation settings. Biochar contributes to climate change mitigation by preventing biomass from decomposing rapidly and releasing GHGs. Key feedstocks for biochar production in Indonesia are rice husks, coconut shells, corn cobs, and oil palm biomass. Climate risks are no longer future projections; they are already reshaping the agricultural system across Indonesia.

- **The government of Indonesia responded to the adverse impacts of climate change by adopting Climate Smart Agriculture (CSA) as a national approach to enhance the resilience of actors in the agriculture sector.** Promotion of climate-smart seeds among farmers, on-farm water management, water pump provisioning, and capacity building for farmers are the most common governmental programs in association with CSA. The 2018 World Bank report identified limited training and information as key barriers to CSA adoption, while supportive policies, market access, risk-management systems, and sufficient financial resources can enable broader adoption. While some CSA approaches involve new technologies and innovations, many build on traditional or locally established farming practices that farmers may already use, and that can be further strengthened or adapted to enhance climate resilience. Indigenous practices

and local wisdom provide notable examples of CSA adoption, such as subak in Bali, kebekolo in Ende, East Nusa Tenggara, and sawah surjan in Yogyakarta. Subak is a traditional governance of collective water management and irrigation system for paddy fields in Bali, which is guided by the Tri Hita Karana philosophy and centered around water temples. Through Subak, farmers collectively manage water distribution from rivers and mountain springs to ensure that each rice field receives the water it needs. On the other hand, Kebekolo is a traditional soil conservation effort where farmers stack branches, wood, and crop waste along hill contours as horizontal barriers to slow down heavy rainwater and keep valuable topsoil from eroding down. Lastly, sawah surjan is a traditional Indonesian farming technique from Kulon Progo that features alternating raised mounds and sunken channels on a single plot. By growing wetland rice in the flooded lower lanes and dryland crops, such as chilies and vegetables, on the elevated beds, farmers can diversify harvests while naturally protecting crops from extreme floods and droughts.

Harnessing Smallholders' Potentials to Foster Sustainable Agriculture

- **Indonesia's agriculture sector is still dominated by smallholder farmers (hereafter smallholders)**. Agricultural Census 2023 reveals that 62% of land-based individual farmers in Indonesia fell under the smallholders category, given the fact that they still managed less than 1 ha of land. Lots of the smallholders resided in East Java, Central Java, and West Java Province. A higher concentration of smallholders can be identified among breeders (72% of them are smallholders), horticulture farmers (67%), and forest farmers (67%). Smallholders in Indonesia are often poorly connected to markets and produce less than 50% of their attainable yield due to their limited access to essential resources and information—roughly 55% of domestic smallholders have yet to adopt digital or modern cultivation technologies, as reported by the 2023 census. The government's financial inclusion efforts continue to bypass smallholders, as 82% of individual farmers in Indonesia could not utilize the Kredit Usaha Rakyat (KUR) facility, a state program offering low-interest credit to micro, small, and medium enterprises. These difficulties are further exacerbated by other socioeconomic factors, including household debt, labor shortages, volatile commodity prices, and rising agricultural input costs. Such challenges, to a certain degree, prevent smallholders from adopting sustainable agricultural intensification, which is now among the primary focuses of current development priorities.
- **While smallholders operate on a modest economic scale, their foundational position in Indonesia's agri-food supply chain makes them essential for scaling sustainable farming practices.** Smallholders, based on FAO's estimation, provide up to 80 percent of the food supply in Asian regions, including Indonesia. Since they are particularly noted for their vital role in preserving biodiversity within agricultural landscapes, empowering smallholders is key to



unlocking their potential to effectively contribute to sustainable agriculture. Their rich grasp of crop biodiversity and ecological systems is fundamentally anchored in their cultural legacy, guided by long-standing customs and shared values. Future policies need to focus on helping smallholders adapt so they can earn a reliable income, grow food sustainably, and protect the environment.

- **Smallholders' attitudes toward sustainability issues are steadily shifting in a positive direction, but turning this growing awareness into concrete practice is the next major challenge.** Indonesian farmers increasingly recognize the long-term threat of unmitigated climate change, with 91.4% of 2024 Farmer Perception Survey respondents voicing concern over its future impact on their farming activities. Survey data from a 2025 study of rice farmers in Demak Regency and a 2026 study of farmers in Bone District yield a comparable result, highlighting widespread agreement that climate-induced disruptions to temperature and rainfall are persistent threats to their crop growth and livelihood stability. However, environmental concerns remain a low priority for many smallholders as awareness rarely translates into action without the right incentives. Research in Tasikmalaya Regency (Sukayat et al., 2023) highlights minimal involvement in soil maintenance and damage prevention, largely because farmers lack compelling reasons to act despite knowing the risks. Similarly, another study across Malang and Pekalongan Districts (Batas et al., 2025) demonstrates this gap, noting that many smallholders still view pesticides as harmless to the environment. The observed gap between knowledge and practical application underscores the need for targeted educational interventions focused on the long-term benefits of sustainable agriculture practices. Addressing these challenges requires not only technical solutions but also behavioral changes facilitated through participatory approaches and iterative learning processes.

The Smallholder Bottlenecks:
A Socio-Political Perspective

- **Small farm sizes have pushed many young people to leave rural areas for cities in search of better opportunities.** Data from the 2013 and 2023 Agricultural Censuses reveals a growing trend of rural out-migration in Indonesia—youth under 35 years old led 12.9% of agricultural households in 2013, but that figure dropped to 10.2% by 2023. A research by Aprilia, Nugroho, and Mutisari in 2019 reveals that the youth's decision to move depends on the agricultural land ownership; the larger the agricultural land holding of their parents, the lower the tendency of youth to choose a livelihood outside of agricultural work. Unlike traditional smallholder farming, younger generations prefer market-oriented agricultural models that integrate post-harvest trading and commercial marketing. As rural populations continue to migrate, replacing the aging farming demographic with a new generation becomes increasingly difficult.



- **While expanding support for agricultural extension agents seems to be a pragmatic approach in promoting sustainable agriculture among smallholders, the Indonesian government has refrained from pursuing such support.** The Indonesian government's historical focus on production volume over systemic support has left the country with only 39,809 agricultural extension officers—far too few to reach the ideal benchmark of one agent for every 1,000 farmers. OECD's estimation shows that the size of support from Indonesian Government towards agricultural knowledge and innovation system in 2024 (USD3.45 million) was significantly lower than support for agricultural input use (USD7.62 billion) and market price support (USD3.45 billion). The political appeal of those steps is obvious—market price support drives public approval for the governing regime while direct input subsidies maintain short-term satisfaction among farmers. Government of Indonesia should demonstrate greater political resolve to prioritize investments in innovation, with a focus on technology adoption.

Seeds Of Change:

Integrating Climate-Smart Agriculture to Village-Based Planning



- **Existing village-level planning and governance mechanisms can provide an important entry point for integrating climate-smart solutions into smallholder farming.** Through forums such as Musyawarah Perencanaan Pembangunan Desa (Musrenbangdes), farmer group meetings (Musyawarah Kelompok Tani), and other village forums, farmers and community representatives have opportunities to discuss local development priorities, including agricultural activities, planting plans, water availability, infrastructure, and livelihood needs. These platforms can therefore facilitate collective discussion of climate-related risks and help identify locally appropriate responses, such as adjusting planting practices, improving water management, or adopting climate-resilient inputs. Strengthening the integration of climate considerations into these existing planning processes can help ensure that CSA interventions are aligned with farmers' priorities and incorporated into broader village development plans, rather than implemented as stand-alone agricultural programmes.

- **Embedding Climate-Smart Agriculture (CSA) into village planning and budgeting can help bridge the gap between national climate commitments and local implementation.** Minister of Villages and Development of Disadvantaged Decree 16/2025 presents an opportunity for CSA to be funded through village funds (dana desa) as Article 2 of the corresponding decree includes climate-resilient village and food security among eight key priorities of village funds utilization in 2026. CSA inclusion in both the Village Medium-Term Development Plan (RPJMDes) and the Village Budget (APBDes), two village government's key policy instruments, will provide a legal basis for the village government to expand CSA in its administrative areas. Segihan and Loa Duri Ulu Villages are among two villages that partially incorporated CSA into their village planning. Segihan Village Government placed agriculture as one of the key priorities in its 2025 RPJMDes. To demonstrate its commitment towards local agriculture, Segihan Village Government allocated IDR 600 million from its 2025 village funds to upgrade essential water infrastructure, including irrigation networks, retention basins, and drainage systems. In another case, Loa Duri Ulu Village Government aspired to include the development of a technology-based agriculture system as well as environmental regreening into its 2025-2027 RPJMDes.

- **Technical solutions alone won't scale CSA; it takes deep, multi-sector partnerships that connect field-level farming with broader community efforts.** This includes access to continuous technical assistance and extension services, appropriate financing and inputs, market linkages, and ongoing capacity building to help farmers maintain and adapt CSA practices over time. Strong institutional coordination can further embed CSA objectives within village planning and development systems, allowing benefits to extend beyond individual farms to the wider community. Within this enabling environment, local champions can play an important complementary role in building trust, mobilising community participation, facilitating the uptake of new interventions, and connecting farmers with technical and institutional support.

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