

Resilient Agribusiness Practices in Developing Economies: Evidence from the Philippines

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ABSTRACT : Sustainable agribusiness practices have become critical for developing economies seeking to balance agricultural productivity with environmental stewardship and social equity. This review synthesizes empirical evidence from the Philippines, an archipelagic developing economy characterized by smallholder-dominated agriculture, climate vulnerability, and increasing integration into domestic and global value chains. Using a qualitative systematic literature review and thematic analysis of peer-reviewed studies, government reports, and policy documents published between 2010 and 2026, the study examines sustainable agribusiness practices including contract farming, agricultural value chain financing, digital technology adoption, organic farming, agroforestry, integrated pest management, and climate adaptation strategies. The findings demonstrate that sustainable agribusiness practices improve environmental performance, strengthen economic resilience, and promote social inclusion when supported by appropriate institutional arrangements, financial systems, and enabling policy environments. However, their implementation is constrained by persistent barriers such as land tenure insecurity, limited access to tailored financial products, inadequate rural infrastructure, digital inequality, weak extension systems, and uneven institutional capacity across regions. The review further identifies key drivers of successful transitions, including equitable contract design, coordinated value chain governance, context-specific digital technology deployment, integration of indigenous knowledge systems, and adaptive capacity-building over time. Overall, the Philippine experience shows that sustainable agribusiness requires a systemic and long-term transformation approach that integrates economic, environmental, social, and institutional dimensions rather than isolated technical interventions. These findings offer policy and practical insights for strengthening resilient and inclusive agribusiness systems in the Philippines and comparable developing economies.

KEYWORDS - Resilient agribusiness; value chain financing; smallholder agriculture; digital agriculture; Philippines.

I. INTRODUCTION

The Philippines, an archipelagic developing economy in Southeast Asia, provides a relevant setting for examining sustainable agribusiness systems due to persistent challenges in its agricultural sector that significantly affect rural economic development. According to the World Bank, agriculture, forestry, and fishing accounted for 8.0% of the country's gross domestic product in 2024, while employing approximately 20.6% of the labor force as of April 2025, indicating a persistent labor productivity gap between agriculture and other sectors. The sector is predominantly composed of smallholder farmers, with 57% cultivating one hectare or less and 32% managing between one and three hectares, collectively forming the backbone of the country's agricultural production system (Guno & Agaton, 2022). However, these smallholders face structural productivity constraints, reflected in an average annual growth rate of only 0.2% between 2013 and 2022, compared with the global average of 1.8% (OECD, 2025).

Post-harvest inefficiencies further exacerbate these challenges, with losses estimated at 30 to 60 percent due to inadequate harvesting, handling, storage, and transportation systems. Losses vary by commodity, reaching 9 to 37 percent for cereals, 27 to 42 percent for fruits and vegetables, and approximately 15 percent for rice (World Bank, 2024). These constraints are intensified by climate vulnerability, as extreme weather events and disasters caused approximately PHP 463 billion (USD 8 billion) in damages between 2010 and 2019, with about 62.7% of total losses—equivalent to PHP 290 billion (USD 5 billion)—affecting the agricultural sector (World Bank, 2024). Within this context, sustainable agribusiness practices are increasingly recognized as

essential pathways for strengthening resilience and enhancing competitiveness among rural enterprises, thereby supporting long-term sectoral sustainability (El Bilali et al., 2021).

Existing literature on sustainable agricultural business systems in developing countries identifies several key development trajectories that help explain the Philippine context. Studies on contract farming indicate that structured arrangements between smallholders and agribusiness firms can improve access to credit, technical assistance, and guaranteed markets, although welfare outcomes vary depending on contract design and power relations (Bellemare, 2012; Barrett et al., 2012). Value chain analyses further suggest that smallholders must develop organizational and operational capacities that enable them to meet quality standards and engage effectively in both domestic and international markets (Andriese, 2018; Briones, 2014). From an agricultural innovation systems perspective, addressing structural barriers that limit participation of marginalized groups in knowledge networks and decision-making processes is essential for developing inclusive value chains (Devaux et al., 2018).

Similarly, digital agriculture literature highlights the potential of technological interventions to improve access to information and markets, although significant challenges persist due to the rural digital divide in developing countries (Klerkx et al., 2019; Briones et al., 2023). Research on sustainable agri-food systems emphasizes that sustainability is inherently multidimensional and requires integrated solutions rather than isolated interventions (El Bilali et al., 2021). In agricultural finance, evidence shows that smallholder farmers—particularly those lacking collateral and formal credit histories—depend heavily on accessible and tailored financial products, which are critical to sustaining agribusiness operations and improving operational efficiency (Abolade et al., 2025; Bayudan-Dacuycuy et al., 2022).

Despite this growing body of literature, several research gaps remain in the study of sustainable agriculture and agribusiness in developing economies. First, existing studies often examine sustainable practices in isolation, without developing an integrated framework that reflects the Philippine institutional and ecological context (Doda et al., 2025). Second, much of the literature focuses either on technical sustainability measures or on economic outcomes, with limited attention to the interactions among environmental practices, financial systems, and social inclusion within agribusiness systems (Donovan & Stoian, 2023). Third, insufficient emphasis has been placed on temporal dynamics, particularly how sustainability practices evolve over time in response to climate variability, policy shifts, and market changes, underscoring the need for longitudinal perspectives (Andriese & Lee, 2017). Fourth, there remains a need to further refine sustainable agribusiness frameworks to better account for the unique conditions of archipelagic developing countries characterized by fragmented landholdings and limited rural infrastructure (Food and Agriculture Organization, 2014).

The Philippines provides a valuable case for addressing these gaps, as it illustrates how middle-income economies continue to face persistent rural development challenges, with approximately 30% of farmers living in poverty compared to 10.2% in urban areas and 21.9% in rural populations, despite the dominance of smallholder agriculture and increasing climate pressures (World Bank, 2024). This review draws on empirical evidence from the Philippine context to address these gaps and generate insights applicable to similar developing economies.

The primary objective of this review is to synthesize and critically examine empirical evidence on sustainable agribusiness practices in the Philippines, with particular attention to the mechanisms through which these practices enhance environmental sustainability, economic viability, and social equity among smallholder producers. Specifically, the study assesses how institutional arrangements such as contract farming, cooperative models, value chain financing, and digital technology platforms facilitate sustainable agribusiness transitions. It also examines the role of policy frameworks and public-private partnerships in enabling the scaling of sustainable practices. In addition, the study seeks to identify persistent barriers to adoption, with particular attention to gender dynamics, generational shifts, and regional disparities across the Philippine archipelago. Finally, it aims to generate evidence-based recommendations for policymakers, development practitioners, and agribusiness stakeholders to support sustainable agricultural development in the Philippines and comparable developing economies. Through these objectives, the review contributes to both theoretical understanding and practical efforts toward more inclusive and resilient agribusiness systems.

II. LITERATURE REVIEW

2.1 Sustainable Agribusiness and Value Chain Development

The concept of sustainable agribusiness has evolved significantly over the past decade, as it increasingly integrates environmental objectives with economically viable and socially equitable development outcomes. El Bilali et al. (2021) propose a holistic framework for sustainable agri-food systems that calls for the analysis of environmental, economic, social, and policy dimensions as interconnected rather than isolated components. This systems-based perspective is particularly relevant in developing economies, where agricultural workers often operate under resource constraints that require the efficient use of limited inputs to meet daily livelihood needs (Hazell et al., 2010). Similarly, the Food and Agriculture Organization (2014)

emphasizes that sustainable food value chain development requires the identification of entry points that align economic incentives with environmental and social objectives, thereby enabling farmers to achieve both profitability and sustainability.

Within the Philippine context, Briones (2014) highlights that smallholders face persistent challenges in achieving competitiveness and sustainability due to weak vertical coordination, inadequate post-harvest infrastructure, and limited access to productivity-enhancing technologies. These findings are consistent with Andriessse and Lee (2017), whose study of seaweed farming in Iloilo Province following Typhoon Yolanda demonstrates that effective participation in agribusiness value chains requires not only production capacity but also resilience to external shocks, supported by strong institutional mechanisms.

The literature on value chain financing further underscores the importance of designing financial systems that promote inclusive and sustainable agricultural development while balancing the risks and interests of both smallholders and financial institutions. Bayudan-Dacuycuy et al. (2022) explain that agricultural value chain financing (AVCF) links farmers and fisherfolk to integrated supply chains involving input suppliers, processors, financial institutions, and markets. Although AVCF models implemented by government and development actors have shown initial success in improving financial inclusion, their scalability depends on the presence of institutional buyers that can provide binding commitments and minimum price guarantees. The Agricultural Credit Policy Council (ACPC) has actively supported this approach, as it enables smallholders to access credit without requiring formal land titles or substantial collateral, which are often barriers under conventional lending systems (Bayudan-Dacuycuy et al., 2022). Extending this perspective, Abolade et al. (2025) argue that access to appropriate financial instruments is essential for sustainable agribusiness performance, particularly those aligned with agricultural production cycles and risk structures. Their review further shows that sustainable agricultural practices often require substantial upfront investment—for example, in organic certification, irrigation systems, and post-harvest facilities—which are not adequately supported by conventional financing schemes. In a related study, Mambuay et al. (2025) emphasize that agribusiness enterprises require a distinct understanding of cash flow dynamics, risk exposure, and investment planning compared to non-agricultural businesses, underscoring the need for specialized financial management competencies in the sector.

In addition, Philippine scholarship highlights the role of cooperatives and collective action as key institutional mechanisms for advancing sustainable agribusiness. Caraele and Bandera (2025) advocate for an integrated agribusiness development approach that strengthens linkages across sectors, resources, and market systems. Likewise, Santos and Santos (2025) show that civil society organizations contribute to the sustainability of agribusiness operations by building local capacity and improving market access, often in coordination with government extension services. Community-based approaches have also been shown to generate efficiency gains through farmer field schools, cluster farming, and cooperative marketing arrangements that would be difficult to achieve individually (Flores et al., 2023). Furthermore, Sumayao and Dy (2025) document the Mamanwa tribe's indigenous agricultural practices, illustrating how traditional ecological knowledge contributes to environmental sustainability and resource balance. Collectively, these studies suggest that sustainable agribusiness development in developing countries requires institutional transformation that addresses coordination failures and strengthens collaboration among smallholders, markets, and support institutions (Donovan & Stoian, 2023).

2.2 Digital Technology and Innovation in Agricultural Systems

Digital transformation has emerged as a key enabler of sustainable agribusiness, contributing to improved productivity, expanded market access, and enhanced environmental performance. Briones et al. (2023) examine digital technology adoption in Philippine agri-food systems and find that smallholders continue to face limited access to digital resources. However, they also emphasize that broader digital inclusion can be achieved through investments in infrastructure and targeted training programs that support effective technology uptake. Their study further highlights the role of e-Kadiwa platforms, digital marketplaces, and satellite-based crop insurance systems in improving access to information while reducing transaction costs for smallholders.

At the global level, the Food and Agriculture Organization (2019) reports that agricultural digital technologies—including mobile applications, remote sensing systems, and blockchain-based traceability tools—support sustainable agricultural practices by enabling more precise resource management and improving transparency across supply chains. In the Philippines, the Department of Science and Technology has implemented smart farming initiatives that integrate IoT-based pest management systems and AI-driven quality assessment tools for high-value crops such as durian, particularly through innovation programs in Mindanao (GovInsider, 2025).

From an institutional perspective, Klerkx et al. (2019) argue that digital agriculture is shaped not only by technological advancement but also by social and institutional conditions. Their analysis shows that while policy narratives often reflect technological optimism, successful implementation depends on digital literacy, farmer trust, institutional support, and compatibility with existing farming practices. They further caution that

digital agriculture may intensify inequalities when access is concentrated among larger, better-educated, and more connected farmers.

Similarly, Wolfert et al. (2017) identify key structural challenges in smart farming systems, including data governance issues, privacy concerns, and interoperability limitations, all of which pose significant barriers to digital transformation in developing economies. Advances in artificial intelligence and data-driven agriculture are also gaining attention. Perin and Feliscuzo (2024) propose an AI-based agricultural knowledge model that enhances extension services through context-specific recommendations, although its effectiveness depends on the availability of robust local datasets. In parallel, Ridon et al. (2024) demonstrate that IoT-based monitoring systems can improve decision-making by enabling real-time tracking of soil moisture, weather conditions, and crop health, thereby supporting more efficient irrigation and fertilization practices.

More broadly, digital technologies are increasingly integrated with sustainable agribusiness systems to support production efficiency, market participation, and supply chain coordination. Townsend (2019) highlights that digital tools can improve food system outcomes by directly linking smallholders to consumers and reducing intermediary costs. In the Philippine context, Briones et al. (2023) note that the government's "One DA" digitalization agenda includes initiatives such as the National Farmers and Fishers Registry System and electronic trading platforms aimed at modernizing the agricultural sector. However, implementation challenges remain, particularly in rural areas where internet connectivity is weak and many farmers lack sufficient digital skills, requiring sustained post-adoption technical support (Klerkx et al., 2019). Overall, the literature suggests that effective digital transformation in Philippine agriculture requires more than technology deployment; it necessitates coordinated investments in human capital, rural infrastructure, and institutional systems that enable smallholders to fully utilize digital tools for sustainable agribusiness development (Food and Agriculture Organization, 2019; Briones et al., 2023).

2.3 Environmental Sustainability and Climate Resilience Practices

Environmental sustainability in agribusiness encompasses a range of practices, including organic farming, agroforestry, integrated pest management, and conservation agriculture, each of which contributes differently to agricultural efficiency, economic viability, and ecological preservation. Doda et al. (2025) conduct a systematic review of global agribusiness transformation and identify organic farming, precision agriculture, and circular economy approaches as dominant trends with strong potential to reduce environmental impacts while sustaining economic performance. In the Philippine context, organic farming has gained traction in areas where cooperatives and local government units actively support chemical-free production systems, which in turn generate premium prices in both domestic and international markets (Farmonaut, 2025). Similarly, agroforestry systems—combining tree crops with annual crops—have expanded in upland areas, providing diversified income sources while enhancing carbon sequestration and reducing soil erosion (Farmonaut, 2025). Collectively, these practices illustrate how smallholder systems can pursue environmental sustainability alongside economic development.

Guno and Agaton (2022) examine the socioeconomic and environmental impacts of solar-powered irrigation systems in the Philippines. Their findings indicate that renewable energy technologies reduce production costs, lower greenhouse gas emissions, and improve water-use efficiency. In particular, solar irrigation systems have been shown to reduce diesel consumption by up to 70 percent in coconut-producing areas. However, the study also notes that high upfront costs and limited technical capacity remain significant barriers for resource-constrained smallholders.

Complementary studies further highlight the role of circular economy approaches in advancing environmental sustainability in agriculture. Pausta et al. (2023) show that resource-oriented sanitation and on-farm nutrient recycling systems allow farms to convert waste streams into productive inputs, thereby reducing dependence on synthetic fertilizers. Similarly, Pedroso et al. (2025) demonstrate that agricultural waste materials can be repurposed as sustainable substrates for mushroom cultivation, creating additional income opportunities while addressing waste management challenges. Together, these studies suggest that Philippine agribusinesses increasingly achieve environmental sustainability through regenerative and resource-efficient production systems rather than merely minimizing environmental harm.

Climate resilience remains a critical dimension of environmental sustainability in the Philippines due to the country's high exposure to typhoons, droughts, and other extreme weather events. Jack et al. (2022) examine a farmer-led sustainable agriculture organization and argue that development, conceptualized as freedom, requires not only technical interventions but also participatory processes that strengthen farmers' capacity to manage agricultural risks. Their ethnographic findings show that resilience in sustainable farming systems is built through both physical infrastructure and the strengthening of social networks and collective learning.

In a similar vein, Schulz and Flores (2024) emphasize that agricultural resilience depends on institutions capable of supporting climate risk management while promoting livelihood diversification in rural communities. At the farm level, adaptive practices such as the System of Rice Intensification (SRI) and water-saving technologies have been widely promoted in rice-growing areas, reducing water use by 30 to 50 percent

while maintaining or even improving yields (Farmonaut, 2025). Likewise, Integrated Pest Management (IPM), which combines biological control methods with cultural practices and limited chemical use, has helped reduce pesticide costs and environmental pollution while sustaining productivity (Farmonaut, 2025). Overall, the Philippine experience demonstrates that environmental sustainability and economic resilience are mutually reinforcing rather than competing objectives in agribusiness development.

III. RESEARCH METHOD

The study adopted a qualitative systematic literature review approach, using documentary analysis as its primary method. Relevant literature was gathered from peer-reviewed journal articles, policy papers, government reports, and institutional publications sourced from databases such as Google Scholar, Scopus, Web of Science, and ResearchGate, as well as official Philippine government repositories, including the Philippine Institute for Development Studies, the Department of Agriculture, and the Agricultural Credit Policy Council.

The literature search was guided by key terms such as “sustainable agribusiness Philippines,” “agricultural value chain financing Philippines,” “contract farming Philippines,” “digital agriculture Philippines,” and “smallholder sustainability Philippines.” Inclusion criteria were applied to ensure that selected sources were peer-reviewed, policy-oriented, or published by recognized institutions, and that they explicitly addressed sustainable agribusiness practices within the Philippine context.

The review covered studies published between 2010 and 2026 and was anchored on established theoretical frameworks on sustainable agri-food systems and value chain development. Data were analyzed using thematic analysis, which enabled the identification of recurring patterns across the literature. These patterns included financing mechanisms in agricultural value chains, contract farming arrangements, digital technology adoption, product and value addition strategies, climate change adaptation practices, institutional and financial support systems, gender dynamics, indigenous knowledge integration, regulatory frameworks, and public–private sector collaboration.

The thematic synthesis provided a structured understanding of how sustainable agribusiness transitions occur in developing economies, with particular emphasis on empirical evidence from the Philippine agricultural context.

IV. RESULTS AND DISCUSSION

The Philippines’ sustainable agribusiness landscape reflects diverse pathways shaped by institutional arrangements and technological change, yielding varied development outcomes. Evidence from contract farming arrangements across developing economies, including the Philippines, indicates that structured production agreements can improve smallholder access to markets, credit, and technical support, although outcomes remain highly contingent on contract design and underlying power relations (Barrett et al., 2012; Bellemare, 2012). In the Philippine context, Bellemare (2012) further emphasizes that welfare gains are highest when contracts combine market access with input provision and technical assistance. Complementing this, Andriesse and Lee (2017), in their study of Iloilo seaweed farming following Typhoon Yolanda, demonstrate that productive participation in value chains requires not only contractual arrangements but also strong institutional support systems capable of sustaining recovery and compliance with production demands. Comparative evidence across developing economies likewise highlights persistent asymmetries between smallholders and agribusiness firms, particularly in bargaining power and contract enforcement, even as such arrangements continue to facilitate technology transfer and market stability under effective governance structures (Barrett et al., 2012; Bellemare, 2012).

The literature on agricultural value chain financing underscores its role in addressing persistent credit constraints among smallholder farmers. Bayudan-Dacuycuy et al. (2022) show that agricultural value chain financing (AVCF) links farmers and fisherfolk to input suppliers, processors, financial institutions, and markets through coordinated financing arrangements. While facilitator-driven AVCF models implemented by government agencies have demonstrated improvements in inclusion, their scalability often depends on the presence of institutional buyers willing to commit to contracts and price guarantees. In practice, risk-sharing mechanisms across value chain actors reduce the burden traditionally borne by smallholders. The tripartite arrangements observed in Bukidnon, involving banks, agribusiness firms, and growers, illustrate how institutional guarantees and supervised production systems can serve as viable substitutes for physical collateral (Bayudan-Dacuycuy et al., 2022). However, access remains uneven, largely favoring farmers with existing capital and institutional linkages. This supports Abolade et al. (2025), who argue that financial systems must offer tailored credit products aligned with the risk profiles and production cycles of smallholder enterprises. Similarly, Mambuay et al. (2025) highlight that sustainable agribusiness development depends not only on access to finance but also on strengthening financial literacy and managerial capacity among producers.

Digital transformation in Philippine agriculture presents both opportunities for inclusion and persistent structural constraints. Briones et al. (2023) observe that while large agribusiness firms and advanced

cooperatives increasingly use digital tools for market coordination and supply chain management, smallholders continue to face barriers related to infrastructure gaps, limited digital skills, and affordability. Government initiatives such as the National Broadband Plan and rural Wi-Fi programs have the potential to narrow the digital divide; however, sustained impact requires not only connectivity but also appropriate content, training, and technical support. Emerging digital applications, including IoT-based pest management systems and AI-driven crop quality assessment tools in Mindanao, demonstrate the practical potential of digital agriculture in addressing production inefficiencies while reducing environmental pressure (GovInsider, 2025). From a socio-technical perspective, Klerkx et al. (2019) emphasize that adoption is shaped by trust, institutional arrangements, and alignment with existing farming practices, rather than technology alone. Similarly, the SEA2SOIL initiative in Surigao del Sur illustrates that successful digital adoption depends on integrating locally appropriate agronomic practices with community-based delivery systems supported by digital monitoring tools (OpenGovAsia, 2025).

Environmental sustainability practices across the Philippines reveal spatially differentiated patterns of adoption and impact. Organic farming, supported by cooperatives and local government initiatives, has gained traction in selected areas such as Negros Occidental and Bukidnon, where farmers are able to access premium markets for chemical-free produce (Farmonaut, 2025). Agroforestry systems are more prevalent in upland regions, where approximately 38% of farmers rely on tree-based production systems to mitigate soil erosion and compensate for limited access to synthetic inputs (Farmonaut, 2025). These patterns align with broader global findings by Doda et al. (2025), which highlight organic farming, precision agriculture, and circular economy approaches as key sustainability pathways, though their implementation in developing contexts is often constrained by cost, knowledge gaps, and policy inconsistency. Empirical evidence from Guno and Agaton (2022) further shows that solar-powered irrigation systems can significantly reduce diesel dependence—by as much as 70% in some coconut-producing areas—while improving environmental outcomes. However, high upfront costs and limited technical support continue to restrict adoption among resource-constrained farmers. A consistent pattern emerges in which environmentally and economically viable technologies fail to scale without adequate financing mechanisms and institutional support (Abolade et al., 2025; Bayudan-Dacuycuy et al., 2022).

Gender and indigenous knowledge systems remain critical yet underexplored dimensions of sustainable agribusiness development. Malapit et al. (2020) highlight that agricultural sustainability outcomes are shaped by gendered divisions of labor and decision-making within farming households, particularly given women's significant roles in post-harvest processing and marketing. In parallel, Sumayao and Dy (2025) document how the Mamanwa community sustains agricultural productivity through indigenous ecological knowledge developed over generations of environmental adaptation. Their findings suggest that development interventions that disregard local knowledge systems are less effective, whereas hybrid approaches that integrate indigenous and modern practices yield more sustainable outcomes. This perspective is reinforced by Jack et al. (2022), who advocate for farmer-centered development approaches that prioritize autonomy and locally grounded decision-making. Similarly, Devaux et al. (2018) emphasize that inclusive value chain development requires deliberate efforts to address structural power imbalances, enabling the meaningful participation of women, indigenous peoples, and landless workers.

The Philippine policy environment reflects both progress and persistent constraints in advancing sustainable agribusiness. The Department of Agriculture's "One DA" reform agenda prioritizes sustainability and digitalization as central pillars of agricultural modernization (Briones et al., 2023). In addition, initiatives such as the DA-ACPC Policy Forum (2024) indicate a policy shift toward more inclusive financial systems that support smallholder participation in value chains (Agricultural Credit Policy Council, 2025). However, as Donovan and Stoian (2023) note, sustainable agribusiness development requires moving beyond pilot programs toward structural reforms that address systemic constraints, particularly land tenure insecurity. Rosete (2020) further demonstrates that insecure property rights discourage long-term investment in sustainable practices, reinforcing broader findings that secure land tenure is a prerequisite for agricultural sustainability in developing contexts (Hazell et al., 2010).

Evidence from sector-specific studies reinforces the importance of context-sensitive approaches to agribusiness development. Quijano (2023) illustrates how targeted interventions in the calamansi value chain can enhance both competitiveness and sustainability by aligning strategies with crop-specific and market conditions. Similarly, Rodriguez (2024) shows that the mushroom industry in Camarines Sur benefits from low capital requirements and strong domestic demand, enabling resource-efficient growth under stable market conditions. Vitug (2025) highlights the bamboo sector as an example of how non-timber forest products can generate sustainable income while contributing to environmental conservation. Collectively, these findings suggest that sustainable agribusiness strategies must be tailored to the biological, economic, and institutional characteristics of each subsector (Food and Agriculture Organization, 2014).

A recurring limitation in the literature is the insufficient attention to temporal dynamics in agribusiness transformation. While Andriess and Lee (2017) demonstrate how seaweed farmers in Iloilo adapted to post-

disaster recovery following Typhoon Yolanda, Schulz and Flores (2024) emphasize that resilience requires anticipatory capacity rather than reactive adjustment alone. In the same vein, Inutan et al. (2025) show that the adoption of sustainable practices in Davao Oriental is a gradual process shaped by continuous learning across production cycles. This evidence underscores the need to assess agribusiness sustainability over extended time horizons, as meaningful structural transformation typically unfolds over several years rather than within project-based timeframes (Donovan & Stoian, 2023).

Finally, financial management emerges as a foundational factor in sustaining agribusiness transformation. Capiña (2022) finds that effective agribusiness performance depends on sound cash flow management, investment planning, and risk mitigation strategies. Musa and Bandera (2025) similarly demonstrate that integrating financial and managerial accounting systems enhances access to formal credit and supports informed investment decisions. At the macro level, Ichdayati et al. (2025) show that widespread adoption of sustainable practices can generate broader economic gains, although outcomes depend on aggregation mechanisms and market structures. Overall, sustainable agribusiness requires the convergence of appropriate financial systems and technical environmental solutions, alongside strengthened managerial capacity among smallholder enterprises (Mambauy et al., 2025).

V. CONCLUSION

This review, grounded in empirical evidence, shows that sustainable agribusiness practices in the Philippines can simultaneously advance environmental stewardship, economic viability, and social equity when supported by coherent institutional arrangements, enabling financial mechanisms, and responsive policy frameworks. The findings indicate that contract farming, value chain financing, digital technology adoption, and environmental management practices all contribute to sustainability outcomes; however, their effectiveness remains contingent on prevailing market conditions, production capacities, and the strength of governance systems within agribusiness organizations.

Despite these gains, the implementation of sustainable agribusiness practices continues to face persistent structural constraints. These include land tenure insecurity, limited access to appropriate financial services, inadequate rural infrastructure, digital exclusion, and weak or inconsistent agricultural extension support. The evidence further suggests that achieving inclusive sustainability requires deliberate attention to gender equity, the integration of indigenous knowledge systems, and the meaningful participation of marginalized groups in value chain governance and decision-making processes.

Future research would benefit from three key directions. First, longitudinal studies are needed to better understand how sustainability transitions unfold over time. Second, comparative research across agro-ecological zones and institutional contexts would help clarify the conditions under which specific interventions are most effective. Third, action-oriented research approaches that engage directly with farming communities could strengthen the co-production of knowledge and improve the practical relevance of sustainability strategies.

From a policy perspective, priorities should include strengthening land tenure security, expanding access to tailored financial instruments for smallholders, and investing in rural digital infrastructure and human capital development. Equally important is the establishment of coordinated multi-stakeholder governance mechanisms capable of responding to evolving climatic, technological, and market dynamics. Overall, the Philippine experience offers valuable insights for other developing economies seeking to balance agricultural productivity with environmental sustainability and social inclusion in the context of climate change and rapid technological transformation.

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