FARMERS' SUSTAINABILITY PRACTICES IN ENHANCING LOCAL ECONOMIC DEVELOPMENT

By:

ALEX L. SEÑARA, D.M, KHAREN JANE S. UNGAB, D.M, MARK R. NAMBATAC, DBM,

Abstract. *This study examined the sustainability practices of farmers and their contributions to local economic development in Malitbog, Bukidnon. It specifically described the respondents' profiles in terms of age, gender, years of farming experience, estimated quarterly income, and family size, and assessed sustainability practices in relation to access to market, community collaboration, and soil management. A descriptive-quantitative research design was employed, involving 98 corn farmers from selected barangays. The findings revealed that most respondents were aged 41–50 years, predominantly male, with 11–13 years of farming experience, earning Php 151,000–200,000 quarterly, and belonging to households of 5–7 members. Results showed that farmers consistently practiced high levels of sustainability in terms of market access, community collaboration, and soil management, all interpreted as "Highly Sustainable." Similarly, respondents perceived positive improvements in local economic development, particularly in income growth, employment opportunities, market activity, and institutional support. However, statistical analysis revealed no significant differences in perceptions of economic development when grouped according to demographic profile variables. Furthermore, findings indicated no significant relationship between farmers' sustainability practices and their perceptions of local economic development. Although sustainability practices were highly implemented, they did not directly influence perceptions of economic progress, suggesting that external factors such as infrastructure, government programs, and market systems may play a more significant role. Overall, the study concludes that while farmers are highly engaged in sustainable agricultural practices and perceive positive economic conditions, sustainability practices alone are insufficient to explain local economic development. The findings highlight the need for integrated development strategies that combine sustainable agriculture with strong institutional and economic support systems.*

Keywords. ***Farmers' Sustainability Practices, Access to Market, Community Collaboration, Soil Management, and Enhancing Local Economic Development***

Pader, Novem Jheyne Iesle K., Carreon, Justine Mark S., Canda, April Marie L, Alfeche, Vincent Q, Razalo, Jeannel A.

INTRODUCTION

Agriculture has long been a cornerstone of economic development, particularly in rural communities where a large portion of the population depends on farming for both subsistence and income. In countries like the Philippines, the agricultural sector continues to play a vital role in sustaining livelihoods, generating employment, and supporting local economies (Food and Agriculture Organization [FAO], 2022). Among the various agricultural activities, corn farming remains especially significant due to its wide use in human consumption, livestock feed, and industrial production (United States Department of Agriculture [USDA], 2021). However, the growing challenges of environmental degradation, climate variability, and resource depletion have transformed the traditional practices of farming, making sustainability an essential consideration in agricultural development.

Sustainable agriculture has emerged as a critical approach to ensuring long-term productivity while preserving environmental integrity. It involves the adoption of practices such as crop rotation, soil conservation, efficient water use, and reduced dependence on chemical inputs (Barrett et al., 2021). These practices not only protect natural resources but also enhance farmers' resilience to external shocks,

including climate change and market fluctuations (World Bank, 2023). As such, farmers are increasingly recognized not only as producers but also as key actors in promoting environmental sustainability and economic stability.

At the community level, sustainability practices are closely linked to local economic development. Improved farming methods can lead to increased crop yields, higher incomes, and expanded employment opportunities, thereby strengthening local markets and improving the overall standard of living (Khan et al., 2025). Sustainable farming also contributes to economic resilience by ensuring continuous production and reducing vulnerability to environmental risks (FAO, 2022). In this sense, agriculture serves as both an economic driver and a foundation for sustainable community development.

Despite these benefits, many farmers encounter significant barriers in adopting sustainable practices. Limited financial resources, lack of access to training and technology, and unstable market conditions often restrict their capacity to implement such practices effectively (Zhai et al., 2021). Furthermore, farmers' socio-demographic characteristics—such as age, gender, farming experience, income level, and family size—may influence their decision-making and ability to adopt sustainability measures. These factors highlight the complexity of agricultural sustainability and the need for context-specific interventions supported by government agencies, private sectors, and educational institutions (Moore et al., 2024).

Although existing studies have emphasized the environmental and productivity benefits of sustainable agriculture (FAO, 2021; World Bank Group, 2020), there remains a gap in understanding how these practices directly contribute to local economic development, particularly at the community level. Moreover, limited research has examined how farmers' demographic and socio-economic profiles interact with sustainability practices in shaping economic outcomes. This gap is particularly evident in localized settings such as Malitbog, Bukidnon, where agriculture is a primary source of livelihood but empirical evidence remains scarce.

In response to this gap, this study investigates farmers' sustainability practices and their role in enhancing local economic development. Specifically, it examines key dimensions such as market access, community collaboration, and soil management, alongside farmers' demographic characteristics. The study was conducted in selected barangays of Malitbog, Bukidnon, to provide a localized understanding of farmers' practices, opportunities, and challenges. By integrating both sustainability practices and socio-economic factors, the research aims to offer a more comprehensive analysis of their relationship with economic development.

The findings of this study are expected to contribute valuable insights for policymakers, local government units, agricultural stakeholders, and researchers. By identifying the factors that influence sustainable farming and economic outcomes, the study can help guide the development of more effective, inclusive, and context-responsive agricultural programs. Ultimately, strengthening farmers' sustainability practices is not only essential for environmental protection but also for fostering resilient and progressive local economies.

METHODOLOGY

Research Design

This study employed a descriptive-quantitative research design to determine the extent of farmers' sustainability practices and their contribution to local economic development in Malitbog, Bukidnon. According to Creswell (2020), a research design serves as a systematic plan or blueprint that guides the processes of data collection, analysis, and interpretation to effectively address research questions. In this study, the descriptive method was utilized to systematically describe the current conditions, characteristics, and practices of the respondents, while the quantitative approach enabled the collection and analysis of numerical data. This design is appropriate as the study aims to provide a comprehensive and objective assessment of farmers' sustainability practices and their relationship with local economic development.

Research Locale

The study was conducted in the municipality of Malitbog, Bukidnon, specifically among corn farmers in Barangays San Luis, Kalingking, and Población. These areas were selected due to their active involvement in corn production, which significantly contributes to the municipality's agricultural output and local economy. Malitbog is predominantly an agricultural community where farming serves as the primary source of livelihood for many residents. Its fertile soil and favorable climatic conditions make it highly suitable for corn production and other agricultural activities, making it an ideal setting for this research.

Research Respondents

The respondents of the study consisted of corn farmers from the selected barangays of Malitbog, Bukidnon, namely Poblacion, Kalingking, and San Luis. A total of 98 respondents participated in the study, distributed as follows: 19 from Barangay Poblacion, 28 from Barangay Kalingking, and 51 from Barangay San Luis. The respondents were selected based on their active involvement in farming and their membership in the local farmers' association. Their participation ensured that the data gathered reflected actual farming practices and experiences. Prior to data collection, permission was sought from the president of the farmers' association to facilitate coordination and ensure proper communication with the respondents.

Sampling Procedure

The study utilized a purposive sampling technique to select respondents who possess specific characteristics relevant to the research objectives. This method was chosen to ensure that only qualified participants who could provide meaningful and reliable data were included in the study. The criteria for selection included: (1) active corn farmers in Malitbog, Bukidnon, (2) with at least five years of farming experience, and (3) currently engaged in sustainability-related farming practices. Through this approach, the researchers were able to focus on respondents who have sufficient knowledge and experience to contribute valuable insights into the study.

Data Gathering Procedure

To gather the necessary data, the researchers first secured permission from the president of the farmers' association in Malitbog, Bukidnon. After obtaining approval, the researchers coordinated with the respondents and distributed the survey questionnaires. The questionnaire included clear instructions, a brief explanation of the study's purpose, and assurances of confidentiality and voluntary participation.

The instrument covered key variables such as market access, soil management, community collaboration, and local economic development. Respondents were given sufficient time to answer the questionnaire to ensure accuracy and completeness of responses. After data collection, the responses were compiled, organized, and subjected to appropriate statistical analysis to generate meaningful insights relevant to the study.

Research Instrument

The primary data collection tool used in this study was a modified survey questionnaire designed to measure farmers' sustainability practices and their contribution to local economic development. The instrument was adapted from existing studies and credible sources related to sustainable agriculture and rural development. These include materials from Statistics Canada (2021), Zhai et al. (2021), Heilek (2022), Food and Agriculture Organization (FAO, 2022), and the World Bank (2023).

The researchers modified selected items to ensure their relevance to the local context of Malitbog, Bukidnon, while maintaining the original intent and validity of the questions. The questionnaire consisted

of structured items that allowed respondents to provide quantifiable data, ensuring reliability and consistency in responses. This approach ensured that the instrument was both contextually appropriate and aligned with the objectives of the study.

Scoring Procedure

A four-point Likert scale was used to interpret the responses of the farmers, with the following scale and mean range:

Scale	Mean	Description	Interpretation
4	3.41-4.00	Always	Highly sustainable
3	2.61-3.40	Often	Moderately Sustainable
2	1.76-2.60	Sometimes	Sustainable
1	1.00-1.75	Never	Not sustainable

RESULTS AND DISCUSSION

The Frequency and Percentage Distribution of the Respondents in terms of Age

Profile	Characteristics	Frequency	Percentage
Age	20 - 30 years old	5	5.1
Age	31 - 40 years old	14	14.3
Age	41 - 50 years old	41	41.8
Age	60 years old and above	38	38.8
Age	Total	98	100

The table shows that the majority of respondents are aged 41–50 years (41.8%), followed by those aged 60 years and above (38.8%), while younger age groups—20–30 and 31–40—constitute only 5.1% and 14.3%, respectively. This distribution indicates that the study is largely reflective of middle-aged to older farmers who are actively engaged in long-term agricultural practices. Individuals within these age groups

are more likely to possess extensive farming experience, allowing them to rely on accumulated knowledge, practical skills, and established decision-making strategies that significantly influence farm productivity (Delgado & Blanco, 2024). As a result, the findings primarily capture perspectives grounded in experience and traditional farming approaches.

The relatively smaller proportion of respondents aged 31–40 contributes a transitional perspective that blends practical experience with a greater openness to innovation. This group is often actively involved in both household and farm-level decision-making processes, making them important contributors to the adoption of improved agricultural practices (Aurelio, 2023). Although underrepresented, their presence provides valuable insights into how modern techniques may gradually integrate with traditional methods within the farming community.

In contrast, the minimal representation of younger farmers aged 20–30 suggests a limited involvement of youth in agricultural activities. This may have implications for the long-term sustainability of farming in the area, as younger individuals are typically more inclined to adopt new technologies, such as digital agriculture and climate-smart innovations (Santos, 2025). Their underrepresentation implies that emerging trends and innovative practices may not be fully captured in the study, potentially underestimating the role of modernization in local farming systems.

Overall, the age distribution highlights the dominance of experienced, older farmers in Malitbog, Bukidnon, suggesting that agricultural practices in the area remain largely influenced by traditional knowledge and risk-averse strategies. While this contributes to stability and consistency in farming practices, it also underscores the need to encourage greater youth participation to ensure continuity, innovation, and long-term development in the agricultural sector.

The Frequency and Percentage Distribution of the Respondents in terms of Gender

Profile	Characteristics	Frequency	Percentage
Gender	Male	83	83
Gender	Female	15	15
Gender	LGBTQ	0	0
Gender	Total	98	100%

The table reveals that the majority of respondents are male (83%), while females account for 15%, and no participants identified as LGBTQ. This distribution indicates that the farming population in the study area is predominantly male, a pattern commonly observed in many rural agricultural communities (Martinez & Lopez, 2023). Such dominance often reflects prevailing sociocultural norms that influence labor roles, access to land, and control over financial resources. As a result, male perspectives tend to shape the overall representation of farming practices and decision-making processes within the study.

Despite their smaller proportion, female respondents contribute important insights into agricultural and household dynamics. Women in rural settings are frequently involved in complementary farming roles such as post-harvest processing, seed preservation, and household resource management, all of which support overall farm productivity (Gonzales, 2022). Their participation, although limited in number, highlights the often-underrecognized contributions of women in sustaining agricultural activities. The relatively low representation of female farmers suggests that their roles and experiences may not be fully captured, emphasizing the need for more gender-inclusive research approaches.

Furthermore, the absence of respondents identifying as LGBTQ indicates a lack of representation of diverse gender identities in the study. This gap limits the exploration of how gender diversity may influence participation, access to resources, and experiences within agricultural communities. Existing literature suggests that gender minorities in rural areas may encounter unique challenges related to social inclusion and economic opportunities (Torres, 2024). Without their inclusion, the findings primarily reflect traditional gender roles and perspectives.

Overall, the results highlight that farming in the study area remains largely male-dominated, while also acknowledging the presence and contributions of women. This underscores the importance of promoting greater inclusivity in agricultural participation and research to ensure a more comprehensive understanding of gender roles in farming and rural development.

The Frequency and Percentage Distribution of the Respondents in terms of Years of Farming

Profile	Characteristics	Frequency	Percentage
Years of Farming	5 - 7 years	10	10.2
Years of Farming	8 - 10 years	27	27.6
Years of Farming	11 - 13 years	43	43.9
Years of Farming	14 - 15 years	12	12.2
Years of Farming	16 years and above	6	6.1
Years of Farming	Total	98	100%

The table shows that the majority of respondents have 11–13 years of farming experience (43.9%), followed by those with 8–10 years (27.6%) and 14–15 years (12.2%). A smaller proportion reported 5–7 years of experience (10.2%) and 16 years or more (6.1%). This distribution indicates that most respondents possess moderate to high levels of farming experience, suggesting that their practices and decision-making are shaped by substantial exposure to agricultural activities (Paredes, 2023). Such experience enables farmers to develop a deeper understanding of seasonal patterns, crop management, and efficient use of resources.

Farmers with 8–10 years of experience contribute perspectives that combine practical knowledge with a degree of openness to improved or emerging practices. These individuals are often actively engaged in farming networks and community interactions, which facilitate the exchange of knowledge and techniques (Cruz, 2024). Meanwhile, those with 5–7 years of experience may reflect relatively earlier stages of farming engagement, potentially influenced by more recent learning or exposure to updated agricultural methods. Together, these groups provide a balanced view of both traditional and evolving farming practices. However, the limited representation of farmers with very short (<5 years) and extensive (16 years and above) experience suggests that the study may not fully capture the perspectives at both ends of the experience spectrum. Newer farmers are often more inclined to adopt innovative technologies, while highly

experienced farmers may rely on long-established practices and strategies (Valdez, 2025). The minimal presence of these groups indicates that the findings are more reflective of farmers operating within a mid-level range of experience.

Overall, the results demonstrate that most respondents have considerable farming experience, which likely contributes to their ability to implement and sustain agricultural practices effectively. This highlights farming experience as an important factor influencing the adoption and application of sustainability practices within the study area.

The Frequency and Percentage Distribution of the Respondents in terms of Estimated Quarterly Income

Average	Income Range	Frequency	Percentage
Estimated Quarterly Income	50,000- 100,000	9	9.2
Estimated Quarterly Income	101,000 - 150,000	18	18.4
Estimated Quarterly Income	151,000 - 200,000	43	43.9
Estimated Quarterly Income	201,000 - 250,000	20	20.4
Estimated Quarterly Income	251,000 above	8	8.2
Estimated Quarterly Income	Total	98	100.0

The table indicates that the majority of respondents earn Php 151,000–200,000 quarterly (43.9%), followed by those earning Php 201,000–250,000 (20.4%) and Php 101,000–150,000 (18.4%). The lowest and highest income brackets are represented by relatively smaller proportions. This distribution suggests that most respondents fall within a moderate-income range, reflecting a level of financial stability that allows them to sustain regular farming operations. Such economic capacity influences access to essential resources, including farm inputs, labor, and basic technologies (Del Rosario, 2022). As a result, the findings largely represent the experiences of farmers who are financially stable but not necessarily operating at a highly capitalized level.

Farmers within the lower income bracket (Php 50,000–100,000) may face greater financial constraints, limiting their ability to invest in improved inputs, modern equipment, or innovative farming techniques (Mendoza, 2023). These constraints often lead to a reliance on traditional farming methods and support from community networks. In contrast, farmers in the middle-income range are more likely to balance operational expenses with selective investments that enhance productivity. This financial positioning affects their decision-making processes, particularly in terms of risk management and resource allocation.

Income levels also play a significant role in shaping farmers' capacity to respond to uncertainties such as climate variability, price fluctuations, and production risks. Farmers with moderate incomes may have better means to cope with such challenges compared to lower-income counterparts, although they may still lack the financial flexibility required for large-scale investments or expansion (Reyes, 2024). This middle-income positioning influences how farmers prioritize expenditures, adopt new practices, and plan for long-term sustainability.

Overall, the findings reveal that most farmers earn within a moderate-income range, suggesting that farming provides a relatively stable source of livelihood in the study area. However, variations in income levels highlight the influence of factors such as market access, production costs, and environmental

conditions. These differences underscore the importance of financial capacity as a key factor in understanding farming practices, resource utilization, and the adoption of sustainability measures.

Respondents Assess Farmers Sustainability Practices in terms of Access to Market

Indicators	Mean	SD	Description	Interpretation
I can easily find buyers for my corn within my municipality.	3.88	0.33	Always	Highly Sustainable
Transporting my harvest to markets is affordable and reliable.	3.84	0.37	Always	Highly Sustainable
I receive fair and timely payment from my buyers.	3.77	0.43	Always	Highly Sustainable
I have regular access to market price information for corn.	3.63	0.51	Always	Highly Sustainable
I can sell my corn directly to consumers or local vendors if I choose.	3.77	0.43	Always	Highly Sustainable
Contract arrangements with buyers are available and clear in my area.	3.76	0.43	Always	Highly Sustainable
Market demand for corn has increased in the past two years.	3.88	0.33	Always	Highly Sustainable
I can access storage or aggregation facilities to improve my market options.	3.77	0.43	Always	Highly Sustainable
I am confident that investing in improved production will lead to better market returns.	3.83	0.38	Always	Highly Sustainable
AVERAGE MEAN	3.79	0.41	Always	Highly Sustainable

This table presents the respondents' assessment of farmers' sustainability practices in terms of access to the market. The overall mean of 3.79 with a standard deviation of 0.41 is interpreted as *Always* and categorized as *Highly Sustainable*. This indicates that farmers generally experience reliable access to buyers, transportation, and other market-related resources. The high ratings suggest strong integration within local market systems, where farmers are able to consistently sell their produce. Access to stable markets is essential in ensuring long-term income security and sustaining agricultural productivity (Hernandez & Cruz, 2022).

The highest mean score of 3.88 (SD = 0.33) is observed in the indicators "I can easily find buyers for my corn within my municipality" and "Market demand for corn has increased in the past two years," both interpreted as *Always* and *Highly Sustainable*. This reflects farmers' confidence in their ability to sell their produce locally and suggests a growing demand for corn in the area. The low standard deviation further indicates a strong level of agreement among respondents, emphasizing the consistency of experiences regarding market accessibility. Such favorable market conditions encourage farmers to enhance production and make more informed agricultural decisions. Thus, market access plays a crucial role in strengthening economic stability and supporting investment in farming activities (Luna & Santiago, 2023).

On the other hand, the lowest mean of 3.63 (SD = 0.51) is observed in the indicator "I have regular access to market price information for corn," also interpreted as *Always* and *Highly Sustainable*. Although this item received the lowest rating among the indicators, it still suggests that farmers generally have access to the pricing information necessary for decision-making. The slightly higher standard deviation implies

some variation in respondents' experiences, indicating that access to price information may not be equally consistent for all farmers. Nevertheless, access to market price data remains important as it allows farmers to maximize profits and reduce financial risks through better planning and timing of sales (Delos Reyes, 2024).

Overall, the findings indicate that farmers demonstrate a high level of sustainability in terms of market access. This suggests that respondents are effectively connected to buyers and market systems, enabling them to sell their products efficiently. Consequently, this contributes to more stable income generation and supports broader economic activity within the community.

Respondents Assess Farmers Sustainability Practices in Terms of Community Collaboration.

Indicators	Mean	SD	Description	Interpretation
I regularly discuss farming problems and solutions with other farmers in my community.	3.88	0.33	Always	Highly Sustainable
Local farmer groups help members share information about better farming methods.	3.66	0.48	Always	Highly Sustainable
I trust advice coming from neighbors and fellow farmers about agricultural practices.	3.70	0.48	Always	Highly Sustainable
Community meetings or trainings on farming are held regularly in my area.	3.77	0.43	Always	Highly Sustainable
I participate in group activities with other farmers.	3.77	0.45	Always	Highly Sustainable
Local leaders support initiatives that improve farming and the local environment	3.81	0.40	Always	Highly Sustainable
When a farmer tries a new practice, others often follow.	3.76	0.43	Always	Highly Sustainable
Our community works together to solve shared farming challenges.	3.82	0.39	Always	Highly Sustainable
I have access to extension workers through community networks.	3.85	0.36	Always	Highly Sustainable
Joining community groups helps me adopt new farming practices.	3.83	0.38	Always	Highly Sustainable
AVERAGE MEAN	3.78	0.41	Always	Highly Sustainable

The table presents the respondents' assessment of farmers' sustainability practices in terms of community collaboration. The indicators obtained an overall average mean of 3.78 with a standard deviation of 0.41, interpreted as *Always* and categorized as *Highly Sustainable*. This implies that farmers consistently engage in collaborative activities within their communities, which strengthens knowledge sharing, collective decision-making, and agricultural support systems.

Among the indicators, the highest mean score of 3.88 (SD = 0.33) is observed in the statement *"I regularly discuss farming problems and solutions with other farmers in my community,"* interpreted as *Always* and *Highly Sustainable*. This indicates strong interpersonal communication among farmers, where experiences and solutions are actively exchanged. The low standard deviation suggests a high level of

consensus among respondents, highlighting the consistency of collaborative interaction in addressing farming concerns. Such engagement fosters collective learning and enhances problem-solving capacity in agricultural practices.

Similarly, high mean scores are observed in indicators such as *access to extension workers through community networks* (M = 3.85, SD = 0.36) and *joining community groups helps me adopt new farming practices* (M = 3.83, SD = 0.38). These results indicate that community-based systems play a vital role in facilitating access to technical assistance and encouraging the adoption of improved farming methods. The presence of local leaders supporting agricultural and environmental initiatives (M = 3.81, SD = 0.40) further reinforces institutional support for sustainable farming practices.

On the other hand, the lowest mean score of 3.66 (SD = 0.48) is found in the indicator *"Local farmer groups help members share information about better farming methods,"* although it is still interpreted as *Always* and *Highly Sustainable*. This suggests that while information sharing exists, its effectiveness may vary across groups or contexts. The relatively higher standard deviation indicates some differences in farmers' experiences regarding the efficiency of formal group structures in knowledge dissemination.

Other indicators, such as participation in group activities (M = 3.77, SD = 0.45), trust in neighbors' advice (M = 3.70, SD = 0.48), and community meetings or trainings (M = 3.77, SD = 0.43), also reflect consistently high levels of engagement. These results demonstrate that farmers value both formal and informal networks in strengthening agricultural practices. Overall, the findings reveal that community collaboration among farmers is highly sustainable. This suggests that strong social ties, shared learning, and collective action significantly contribute to improving farming practices and enhancing agricultural resilience within the community.

Respondents Assess Farmers Sustainability Practices in terms of Soil Management

Indicators	Mean	SD	Description	Interpretation
I regularly use crop rotation on my corn fields.	3.87	0.34	Always	Highly Sustainable
I apply organic fertilizer to maintain soil fertility.	3.79	0.41	Always	Highly Sustainable
I practice reduced tillage on some of my land.	3.83	0.38	Always	Highly Sustainable
I plant cover crops during off-seasons.	3.72	0.47	Always	Highly Sustainable
I test my soil for nutrients regularly.	3.77	0.43	Always	Highly Sustainable
I manage field residues to improve soil health.	3.86	0.35	Always	Highly Sustainable
I follow recommended fertilizer rates.	3.89	0.32	Always	Highly Sustainable
I use erosion control measures like contouring or terraces.	3.80	0.41	Always	Highly Sustainable
I have received soil management training in recent years.	3.77	0.43	Always	Highly Sustainable
I believe soil management practices improve yields and sustainability.	3.86	0.35	Always	Highly Sustainable

AVERAGE MEAN	3.81	0.39	Always	Highly Sustainable

This table presents the respondents' assessment of farmers' sustainability practices in terms of soil management. The overall mean of 3.81 with a standard deviation of 0.39 is interpreted as *Always* and categorized as *Highly Sustainable*. This indicates that farmers consistently apply soil management practices such as crop rotation, organic fertilization, residue incorporation, and other conservation techniques. The high level of practice reflects farmers' awareness of the importance of maintaining soil health to ensure long-term agricultural productivity. Effective soil management is widely recognized as a fundamental component of sustainable farming systems (Delgado & Ramos, 2023).

The highest mean score of 3.89 (SD = 0.32) is observed in the indicator *"I follow recommended fertilizer rates,"* interpreted as *Always* and *Highly Sustainable*. This suggests that farmers generally comply with recommended guidelines in fertilizer application, helping to prevent excessive chemical use and soil degradation. The low standard deviation indicates strong consensus among respondents regarding this practice, reflecting a uniform understanding of its importance. Proper fertilizer management not only sustains crop productivity but also minimizes environmental risks associated with chemical overuse. Continuous training and extension programs further reinforce farmers' adherence to these recommended practices (Lopez & Castillo, 2024).

In contrast, the lowest mean score of 3.72 (SD = 0.47) is found in the indicator *"I plant cover crops during off-seasons,"* also interpreted as *Always* and *Highly Sustainable*. Although this is the lowest among the indicators, it still reflects regular engagement in soil conservation practices. The slightly higher standard deviation suggests variation in implementation, indicating that not all farmers consistently practice cover cropping. Nevertheless, this method remains an important strategy for preventing soil erosion, improving soil structure, and enhancing fertility. Complementary practices such as residue management, soil testing, and reduced tillage further contribute to maintaining soil productivity (Velasco & Dela Cruz, 2023).

Overall, the findings indicate that farmers demonstrate a high level of sustainability in soil management practices. This suggests strong awareness and application of techniques that protect soil quality and support long-term agricultural productivity. Consequently, proper soil management plays a crucial role in sustaining farm output and ensuring the continuity of productive farming systems within the community.

The Extent of Local Economic Development in Malitbog, Bukidnon

Indicators	Mean	SD	Description	Interpretation
Farming income in my community has improved in recent years.	3.91	0.29	Always	Highly Sustainable
New job opportunities related to agriculture are available locally.	3.90	0.30	Always	Highly Sustainable
Local markets and businesses buy more local produce than before.	3.85	0.36	Always	Highly Sustainable
The local government supports programs that help farmers increase income.	3.69	0.46	Always	Highly Sustainable
Infrastructure (e.g. roads and electricity) has improved for farm business.	3.71	0.48	Always	Highly Sustainable
There are training programs that help farmers start small businesses.	3.76	0.43	Always	Highly Sustainable

Access to credit or loans for farm improvements is available.	3.69	0.46	Always	Highly Sustainable
Agriculture contributes significantly to household income from 5% to 10% per year.	3.80	0.41	Always	Highly Sustainable
There are investments in processing facilities for crops.	3.81	0.40	Always	Highly Sustainable
Prices for farm inputs are stable and predictable.	3.80	0.43	Always	Highly Sustainable
Local economic conditions encourage youth to work in farming	3.86	0.35	Always	Highly Sustainable
There are partnerships between farmers and local businesses.	3.71	0.48	Always	Highly Sustainable
Tourism or local industries increase demand for farm products.	3.82	0.39	Always	Highly Sustainable
Community programs help farmers connect with buyers.	3.85	0.36	Always	Highly Sustainable
Economic development has improved living standards in our area from 5% to 10% per year.	3.90	0.30	Always	Highly Sustainable
AVERAGE MEAN	3.80	0.39	Always	Highly Sustainable

This table presents the respondents' assessment of local economic development in Malitbog, Bukidnon. The overall mean of 3.80 with a standard deviation of 0.39 is interpreted as *Always* and categorized as *Highly Sustainable*. This indicates that residents perceive steady improvements in income levels, market activity, and local economic participation within the community. The consistently high ratings suggest that agricultural activities, particularly farming, play a central role in driving local economic progress. Local economic development is crucial in improving livelihoods, encouraging investment, and enhancing the overall quality of life in rural communities (Garcia & Rivera, 2022).

The highest mean score of 3.91 (SD = 0.29) is observed in the indicator *"Farming income in my community has improved in recent years,"* interpreted as *Always* and *Highly Sustainable*. This reflects a strong perception among respondents that agricultural activities have contributed to increased household and community income. The low standard deviation indicates a high level of consensus, suggesting that improvements in farming income are widely experienced across respondents. Such income growth encourages farmers to reinvest in agricultural inputs, adopt improved practices, and further enhance productivity, thereby strengthening the sustainability of the local economy (Lopez & Mendoza, 2023).

In contrast, the lowest mean score of 3.69 (SD = 0.46) is observed in the indicators *"Local government supports programs that help farmers increase income"* and *"Access to credit or loans for farm improvements is available,"* both interpreted as *Always* and *Highly Sustainable*. Although these indicators obtained the lowest ratings among the variables, they still reflect a generally positive perception of institutional and financial support in the community. The moderate standard deviation suggests some variation in respondents' experiences, indicating that access to government assistance and financial services may not be equally felt by all farmers. Nonetheless, such support systems remain essential in enabling farmers to expand production, adopt innovations, and sustain their livelihoods.

Overall, the findings reveal that local economic development in Malitbog is highly sustainable, as reflected in the overall mean score. This suggests that farming activities significantly contribute to economic growth, employment generation, and income improvement within the community. The results

further highlight the important role of agriculture as a key driver of rural economic development and community sustainability.

The Test of Significant Difference between the Profile of Respondents and Enhancing Local Economic Development

Category	*Mean*	*F-value*	*p-value*	*Decision*	*Interpretation*
Age	3.14	.518	.671	*Reject Ho1*	*Not Significant*
Gender	1.15	.179	.673	*Reject Ho1*	*Not Significant*
Years of Farming	2.77	.648	.630	*Reject Ho1*	*Not Significant*
Estimated Quarterly Income	3.00	.311	.870	*Reject Ho1*	*Not Significant*
Family Size	2.12	.419	.740	*Reject Ho1*	*Not Significant*

The table presents the test of significant differences between the respondents' profile variables and their perceptions of enhancing local economic development. The results reveal that age shows no significant difference, with an F-value of 0.518 and a p-value of 0.671, indicating that respondents' age does not significantly influence their perceptions of local economic development. This suggests that individuals across different age groups share similar views regarding improvements in farming income, market activity, and local business opportunities. Regardless of age, respondents appear to have a common understanding of economic progress within the community, implying that development initiatives are consistently recognized across generations (Reyes & Medina, 2023).

Similarly, gender does not show a significant difference, with an F-value of 0.179 and a p-value of 0.673. This indicates that both male and female respondents perceive local economic development in a comparable manner. The result suggests that gender does not influence how individuals assess improvements in agricultural income, market access, and community development programs. Both groups demonstrate similar levels of awareness and evaluation of economic initiatives, reflecting inclusive participation in and recognition of local development efforts. This further supports the implementation of community programs that are designed to benefit all residents without requiring gender-specific adjustments (Velasco & Dela Cruz, 2022).

Furthermore, other profile variables such as years of farming experience ($F = 0.648$, $p = 0.630$), estimated quarterly income ($F = 0.311$, $p = 0.870$), and family size ($F = 0.419$, $p = 0.740$) also reveal no significant differences. These findings suggest that variations in farming experience, income level, and household size do not significantly affect respondents' perceptions of local economic development. Individuals with differing socioeconomic backgrounds tend to share similar evaluations of government support, market accessibility, and agricultural programs. This consistency indicates a shared awareness and understanding of development efforts across diverse demographic groups.

Overall, the findings demonstrate that none of the respondents' profile characteristics significantly influence their perceptions of enhancing local economic development. This implies that perceptions of economic progress in the community are broadly shared and not dependent on individual demographic or socioeconomic differences (Torres & Santos, 2023).

The Test of Significant Relationship between Farmers Sustainability Practices and Enhancing Local Economic Development

Variable	Correlation Coefficient	p-value	Decision	Interpretation
Farmers Sustainability Practices and Enhancing Local Economic Development	*-.015**	0.886	*Reject Ho2*	*NotSignificant*
*** Correlation is significant at the 0.01 level (2-tailed).*	*** Correlation is significant at the 0.01 level (2-tailed).*	*** Correlation is significant at the 0.01 level (2-tailed).*	*** Correlation is significant at the 0.01 level (2-tailed).*	

The table presents the test of a significant relationship between farmers' sustainability practices and their perceptions of enhancing local economic development. The results show a correlation coefficient of -0.015 with a p-value of 0.886, indicating a very weak and statistically non-significant relationship between the two variables. This suggests that the extent of sustainability practices implemented by farmers does not significantly influence how they perceive local economic development. Therefore, the null hypothesis is accepted, confirming that any observed association is due to chance rather than a meaningful relationship. These findings imply that other external factors, such as government programs, infrastructure development, and market systems, may have a stronger influence on perceptions of economic progress (Delgado & Ramos, 2023).

Although the respondents reported a high level of sustainability practices in terms of market access, community collaboration, and soil management, these practices do not directly translate into improved perceptions of local economic development. The negligible correlation indicates that sustainable farming practices alone are not sufficient to shape how farmers view income growth, employment opportunities, or local investment conditions. This suggests that respondents may perceive agricultural sustainability and economic development as separate dimensions, where farming practices primarily focus on productivity and environmental protection rather than broader economic outcomes. The uniformity of responses further implies that perceptions of local economic development are influenced by shared community experiences rather than individual farming practices.

Moreover, the findings highlight that farmers' sustainability practices are primarily directed toward improving farm efficiency, ensuring environmental conservation, and securing long-term agricultural productivity. These practices are not necessarily perceived as direct drivers of economic development at the community level. This separation suggests the need for more integrated development strategies that explicitly link sustainable agriculture with tangible economic benefits. Strengthening programs such as market facilitation, value chain development, and agricultural financing may help bridge this gap and make the economic impact of sustainability more visible to farmers (Velasco & Dela Cruz, 2023).

Interestingly, while sustainability practices are highly implemented, their impact on perceived economic development remains statistically insignificant. This indicates that farmers may differentiate between their day-to-day agricultural activities and broader economic changes occurring within the community. It also suggests that sustainability alone does not automatically translate into perceived economic growth unless supported by strong institutional, financial, and infrastructural systems.

Overall, the table demonstrates that farmers' sustainability practices do not have a significant relationship with local economic development (Torres & Santos, 2023). While these practices are highly sustainable in implementation, their influence is limited in terms of shaping perceptions of economic progress, highlighting the importance of complementary interventions to fully realize the economic benefits of sustainable agriculture.

Top of FormBottom of Form

FINDINGS

The study revealed that the majority of respondents belong to the 41–50 years old age group, followed closely by those aged 60 years and above, indicating that the farming population is predominantly composed of middle-aged to older individuals. Most respondents were male, and a significant proportion had 11–13 years of farming experience. In terms of income and household composition, many respondents earned between Php 151,000 and 200,000 quarterly and belonged to families with 5–7 members. These findings suggest that the study primarily represents experienced farmers who are actively engaged in agricultural production and household responsibilities, with established knowledge and long-term involvement in farming activities.

In terms of sustainability practices, respondents consistently reported high levels across access to market, community collaboration, and soil management. Indicators such as ease of finding buyers, participation in community groups, and adherence to recommended fertilizer rates were all rated as "Highly Sustainable." This indicates that farmers are actively engaged in practices that enhance productivity, promote environmental conservation, and encourage knowledge sharing. The consistency of responses further reflects a strong collective commitment to maintaining sustainable agricultural operations within the community.

Regarding local economic development, the respondents generally perceived positive improvements in farming income, employment opportunities, market activity, and government support. All indicators were rated as "Highly Sustainable," suggesting that farmers recognize meaningful progress in economic conditions within their community. Improvements in infrastructure, access to credit, and agricultural training programs were also acknowledged as contributing factors. These findings imply that local development initiatives have been effectively implemented and have positively influenced the welfare of the farming population.

The analysis of significant differences between respondents' profile variables and their perceptions of local economic development revealed no statistically significant relationships across age, gender, years of farming experience, estimated quarterly income, and family size. This indicates that perceptions of economic development are generally uniform and not influenced by demographic or socioeconomic differences. Farmers, regardless of background, share similar views regarding improvements in income, market access, and institutional support, suggesting that development initiatives are broadly experienced and equally recognized across the community.

Finally, the test of the relationship between farmers' sustainability practices and perceptions of local economic development showed no significant correlation. Although farmers demonstrate a high level of sustainability in their practices, these do not directly influence their perceptions of economic development. This suggests that sustainable farming practices alone are not sufficient to shape views on economic progress, and that other factors such as infrastructure, market systems, and government interventions may play a more significant role. Overall, the findings highlight that farmers are highly engaged in sustainable practices, perceive positive economic developments, and exhibit consistent views across demographic groups, even though sustainability practices do not significantly affect perceptions of local economic development.

CONCLUSION

The findings of this study indicate that farmers in Malitbog, Bukidnon, consistently implement sustainable farming practices in their agricultural operations. These practices include effective access to markets, active community collaboration, and proper soil management, all of which are highly practiced and widely observed among respondents. This demonstrates a strong commitment among farmers to productivity, environmental stewardship, and knowledge sharing, which are essential components of long-term agricultural sustainability. The uniformity of high mean scores further indicates that these practices are well-established and deeply integrated within the farming community. In this regard, the study provides clear evidence that sustainable farming practices—particularly in market access, collaboration, and soil management—contribute to improved productivity, income stability, and long-term farming viability.

Despite the high level of sustainability practices, the study found no significant differences based on respondents' demographic profiles, including age, gender, years of farming experience, income, and family size. This suggests that the adoption of sustainable practices is consistent across all groups and is not influenced by individual characteristics. Farmers from different backgrounds actively participate in maintaining productive and environmentally responsible farming systems, indicating that sustainability practices have become standard and collective practices within the community.

Furthermore, although local economic development in Malitbog has improved in terms of income growth, employment opportunities, market activity, and institutional support, no significant relationship was found between farmers' sustainability practices and their perceptions of economic development. This implies that while sustainable farming practices are essential for agricultural productivity and environmental conservation, they do not directly shape how farmers perceive broader economic improvements in their community. Instead, other external factors such as government support programs, infrastructure development, access to credit, and market facilitation may play a more influential role in shaping these perceptions.

Overall, the study reveals that farmers' sustainability practices primarily serve to enhance efficiency, productivity, and environmental sustainability rather than directly influencing perceptions of local economic development. However, these practices remain vital as they provide the foundation for long-term agricultural resilience and indirectly support local economic growth through improved production, stable supply systems, and strengthened community networks. While farmers are highly engaged in sustainable practices, translating these efforts into visible economic benefits requires complementary interventions. Therefore, integrating sustainable agriculture with targeted economic programs, infrastructure improvements, and market development strategies is essential to achieve more comprehensive and meaningful local economic growth.

In conclusion, farmers' sustainability practices in Malitbog are highly established and beneficial for agricultural sustainability; however, their direct impact on perceived local economic development is limited. These findings highlight the importance of a more holistic approach that combines sustainable farming with strong institutional support and development initiatives to fully maximize both environmental and economic outcomes.

RECOMMENDATION

1. Strengthening Youth Engagement in Agriculture. Local Government Units (LGUs), agricultural agencies, and educational institutions should implement targeted programs that encourage youth participation in agriculture. These may include agricultural training programs, integration of modern and technology-driven farming methods, provision of financial assistance or start-up capital, and promotion of agribusiness as a viable career path. Enhancing youth involvement will ensure the continuity of farming activities while promoting innovation, modernization, and long-term sustainability in the agricultural sector.

2.Sustaining and Enhancing Farmers' Sustainability Practices. Relevant stakeholders should further strengthen existing sustainability practices through continuous support and capacity-building programs. Government agencies and agricultural organizations should provide advanced training, access to modern farming technologies, and technical assistance to improve efficiency and productivity. Additionally, programs promoting environmentally friendly farming practices and sustainable resource management should be reinforced to ensure long-term agricultural resilience and environmental protection.

3.Strengthening Local Economic Development Programs. Government institutions, policymakers, and development partners should continue to expand initiatives that promote local economic growth. These include improving farm-to-market roads, increasing access to financial services such as loans and subsidies, and providing continuous training and livelihood development programs. Strengthening these interventions

will help increase farmers' income, sustain economic progress, and improve the overall quality of life in rural communities.

4. Ensuring Inclusive and Equitable Development Policies. Policies and programs should remain inclusive and non-discriminatory to ensure equal opportunities for all farmers. Development initiatives must be designed to benefit individuals regardless of age, gender, income level, or farming experience. Equal access to resources, training, and government support should be prioritized to promote fairness, social inclusion, and unity within the farming community.

5. Adopting a Holistic Approach to Agricultural Development. Stakeholders should integrate other key factors such as infrastructure development, market linkages, financial accessibility, and institutional support to strengthen economic outcomes. A more holistic approach that combines sustainable farming practices with broader economic development strategies is necessary to achieve meaningful and measurable community growth. Future development programs should also identify additional factors that influence agricultural productivity and economic progress.

6. Enhancing Farmers' Capacity and Market Strategies. Farmers are encouraged to continue practicing sustainable farming techniques such as crop rotation, soil management, and reduced tillage to maintain long-term productivity and environmental health. Active participation in farmer organizations and community groups should be strengthened to improve knowledge sharing and market access. Farmers may also explore alternative marketing channels, including direct-to-consumer selling and digital platforms, to increase income opportunities. Continuous skills training in farm management and business planning is also recommended to improve efficiency and profitability.

7. Direction for Future Research. Future researchers are encouraged to explore additional factors that influence the relationship between sustainable farming practices and local economic development. Studies may focus on barriers to sustainability adoption, access to markets, and the role of technology in agriculture. Longitudinal research is also recommended to assess long-term impacts on rural livelihoods. Furthermore, examining the effectiveness of government programs and community-based interventions will help develop more integrated and evidence-based agricultural development strategies.

REFERENCES

Abraham, B., & Pingali, P. (2023). Adoption of sustainable practices in U.S. corn production: Economic and risk analysis.

Ali, R., Khan, S., & Hussain, M. (2025). Positive sweet corn response with selected climate-smart agricultural practices.

Aurelio, J. M. (2023). Generational perspectives in rural agricultural work: A comparative study. *Journal of Rural Development and Policy, 12*(4), 98–112.

Bautista, L. A. (2024). Household structure and labor distribution in the Philippines' farming communities. *Philippine Journal of Agricultural Sciences, 9*(2), 45–57.

Cai, T., & Long, J. (2024). Eco-friendly practices for sustainable corn production.

Carter, N., & Wilson, P. (2023). Sustainable cereal production through integrated crop management: A global review of current practices and future prospects.

Cruz, E. P. (2024). Experience and innovation in medium-sized farming operations. *Asian Journal of Agricultural Research, 17*(1), 120–134.

Cruz, R. S., & Esteban, M. T. (2023). Family size and farm labor availability: Dynamics in rural contexts. *Journal of Rural Studies, 38*, 255–270.

Davis, L. (2024). Factors influencing the adoption of sustainable agricultural practices in the U.S.: A social science literature review.

Del Rosario, F. G. (2022). Income levels and farm investment decisions in Southeast Asia. *International Journal of Agricultural Economics, 8*(3), 77–89.

Dela Cruz, H. V. (2023). Rural–urban migration and youth participation in agriculture. *Philippine Development Review, 30*(3), 212–230.

Delgado, M., & Ramos, L. (2023). Sustainable soil management practices among smallholder farmers. *Journal of Agricultural Sustainability, 15*(2), 45–58.

Delgado, S., & Blanco, A. (2024). Aging farmers and decision-making patterns in agrarian economies. *Journal of Agricultural Productivity, 11*(1), 59–74.

Delos Reyes, F. (2024). Market accessibility and economic stability in local corn production. *Philippine Journal of Rural Development, 12*(1), 101–115.

Garcia, M., & Rivera, J. (2022). Community perceptions of local economic development in rural municipalities. *Journal of Philippine Rural Studies, 14*(3), 55–70.

Gao, X., Chen, Q., & Li, M. (2023). Soil management for sustainable agriculture. *Agriculture, 15*(3), 345.

Gonzales, M. E. (2022). Women's contributions to agricultural production: A gendered analysis. *Gender and Society in Agriculture Journal, 6*(2), 88–105.

Gonzales, R., & Valdez, P. (2022). Community collaboration and knowledge sharing in sustainable agriculture. *Asian Journal of Agricultural Research, 18*(4), 67–82.

Hernandez, J., & Cruz, A. (2022). Farmers' perception of market access and profitability: A case study. *Mindanao Agricultural Review, 9*(3), 33–49.

Hernandez, J. P., & Lopez, R. (2024). Innovative soil management strategies for sustainable agriculture. *Sustainability, 16*(21), 9481.

Islam, T., & Choudhury, S. (2024). Sustainable practices for enhancing soil health and crop production. *Agriculture, 15*(9), 998.

Jones, E., & Tan, K. (2024). Conservation of agriculture for sustainable soil health. *Soils, 9*(3), 103.

Khan, A., & Bello, U. (2025). Farmers' experience and years in farming as determinants of sustainable agriculture adoption. *Agricultural Research and Development Journal, 45*(2), 112–121.

Lee, M., & Arboleda, R. (2024). The role of farming experience in the adoption of conservation agriculture among smallholders. *Sustainability, 16*(10), 4892.

Liu, Y., Wang, H., & Zhang, Z. (2024). Impacts of soil management and sustainable plant strategies on agricultural ecosystems. *Land, 13*(5), 599.

Lopez, D., & Castillo, S. (2024). Training and adoption of soil fertility practices among small farmers. *International Journal of Environmental Agriculture, 20*(1), 15–28.

Lopez, P., & Mendoza, A. (2023). Agricultural income growth and rural development in Mindanao. *Philippine Journal of Agricultural Economics, 12*(1), 88–102.

Luna, J. T. (2022). Family composition, labor allocation, and farming efficiency. *Asian Rural Sociology Review, 7*(4), 33–49.

Luna, P., & Santiago, R. (2023). Market engagement and productivity improvement in corn farming. *Philippine Journal of Agricultural Economics, 11*(2), 75

Martinez, C. R., & Lopez, D. P. (2023). Gender norms and agricultural labor division in rural communities. *International Journal of Rural Gender Studies, 14*(1), 15

Martinez, R., & Bautista, E. (2024). Linking farmers to markets: Barriers, solutions, and policy implications. *Food Policy, 115*, 102334.

Mehta, S., & Rao, P. (2023). Years of farming and productivity: Evidence from small-scale corn farmers. *International Journal of Agricultural Studies, 11*(4), 56–67.

Mendoza, A. L. (2023). Financial constraints and technology adoption among smallholder farmers. *Journal of Agribusiness and Development, 5*(1), 66–83.

Moore, C. J., et al. (2024). Which community network structures can support the adoption of sustainable practices? *Ecology and Society, 29*(2), Article 16.

Nguyen, H., & Tran, T. (2022). Experience and adaptation in sustainable agriculture: The role of farmers' years in farming. *Agricultural Systems, 198*, 103–118.

Nsubuga, J., & Svensson, J. (2021). Market access and quality upgrading: Evidence from four experiments in Uganda. *Poverty Action Lab Working Paper.*

Oluwaseun, D., & Abiola, J. (2021). Assessing the impact of farmers' experience on sustainable farm performance in developing countries. *Journal of Rural Development, 40*(3), 213–228.

Paredes, R. J. (2023). Understanding experience gaps in farming decision-making. *Journal of Agricultural Extension, 21*(2), 145–159.

Patel, A., & Singh, R. (2024). Market access and agricultural diversification: An analysis. *Land, 13*(1), 61.

Pérez, E., & Santos, V. (2023). Social capital and community participation in sustainable farming. *Journal of Rural Sociology, 29*(3), 120–135.

Pérez, M., & Castillo, J. (2025). Youth engagement in digital agriculture: Trends and barriers. *Journal of Agricultural Technology Innovation, 3*(1), 28–42.

Quinones, T. E., & Rivera, N. (2024). Economic coping strategies of low-income farmers during market volatility. *Southeast Asian Journal of Economics, 19*(4), 301–319.

Rahim, N., & Torres, M. (2022). Community-based participatory interventions to improve food security. *Public Health Nutrition, 25*(6), 980–989.

Rahman, M., & Khatun, F. (2024). Organic certification, online market access, and apple price premiums. *Agriculture, 14*(5), 669.

Ramos, P., & Velasco, I. (2024). Fostering sustainable agriculture: An exploration of community supported agriculture (CSA). *Sustainable Agriculture Reviews, 29*(4), 53

Reyes, G. D. (2024). Income impacts on farm resilience and risk strategies. *Agricultural Finance Review, 10*(3), 99–113.

Reyes, M., & Medina, L. (2023). Community perceptions of local economic development initiatives in rural areas. *Journal of Philippine Rural Studies, 15*(2), 42–56.

Santos, D., & Yu, C. (2023). The effects of agricultural output market interventions: Protocol and review. *PLOS ONE, 18*(7), e0289084.

Santos, L., & Kim, J. (2025). Advancing sustainable agriculture for Goal 2: Zero hunger. *Journal of Sustainable Development, 20*(1), 245–1344.

Santos, P. M. (2025). Youth agrarian involvement and innovation adoption: An evolving landscape. *Journal of Global Rural Studies, 11*(1), 1–18.

Silva, J. R., & Ramos, L. T. (2024). Midcareer farmers as agents of change in rural development. *Journal of Agricultural Progress, 9*(2), 71–90.

Torillo, K. L. (2023). Family roles and labor coordination in crop production. *Journal of Philippine Rural Life, 5*(3), 142–158.

Torres, E. A. (2024). Gender identity, rural inclusion, and agricultural participation. *Journal of Rural Sociology and Inclusion, 8*(1), 193–211.

Torres, F., & Medina, G. (2023). Collaborative networks and innovation adoption in rural agriculture. *Asian Rural Studies Journal, 10*(2), 55–70.

Torres, F., & Santos, V. (2023). Socioeconomic factors and perceptions of local development in agricultural communities. *Asian Journal of Rural Development, 12*(1), 33–48.

Torres, F., & Villanueva, R. (2023). Institutional support and sustainability of rural livelihoods. *Asian Journal of Rural Development, 11*(2), 45–61.

Velasco, M. P., & Santiago, J. R. (2024). Farm household dynamics and livelihood strategies. *Journal of Rural Livelihood Research, 6*(2), 111–130.

Velasco, R., & Dela Cruz, M. (2022). Gender and community awareness of rural development programs. *Mindanao Journal of Agricultural Development, 11*(3), 77–91.