



The Influence of Agrosilvopasture Implementation and MSME Incubation on SDGs in Rural Areas of Indonesia with Financial Literacy as a Mediator

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ABSTRACT

This study aimed to explore the roles of Agrosilvopasture, MSME (Micro, Small, and Medium Enterprise) Incubation, and financial literacy in supporting Sustainable Development Goals (SDGs) in rural areas of Indonesia. The study procedures were carried out from April to September 2023 in Pagar Alam City using indigenous communities and stakeholders associated with customary forest management, comprising 100 intentionally selected respondents. Subsequently, the Slovin formula was used to determine the number of respondents, who were then selected using a purposive sampling method. The relationships among variables, including Implementation of Agrosilvopasture (X1), MSME Incubation (X2), Financial Literacy (M), and SDGs (Y), were tested. Data obtained were then analyzed using the Partial Least Squares-SmartPLS. The results of path coefficient analysis showed that Agrosilvopasture had a significant negative influence on financial literacy but a positive impact on SDGs. In addition, MSME incubation yielded a favorable impact on both financial literacy and SDGs. Mediation testing validated that financial literacy served as a mediator in the relationship between Agrosilvopasture and the examined outcomes. Based on the results, financial literacy, Agrosilvopasture implementation, and MSME incubation were crucial for achieving SDGs in rural areas. These holistic approaches offered promising pathways to achieve various SDGs, with financial literacy playing an essential role in enhancing the effectiveness of the strategies.

INTRODUCTION

The Sustainable Development Goals (SDGs) have gained significant attention within the global development agenda. SDGs typically comprise a series of targets aimed at achieving sustainable progress in various aspects of human life, such as poverty reduction, improved health, inequality mitigation, and environmental preservation. In this context, the implementation of Agrosilvopasture, as a sustainable agricultural practice that combines crop cultivation, livestock farming, and shrub vegetation within a unified system, has become an increasingly favored strategy for attaining several SDGs. The incubation of Micro, Small, and Medium Enterprise (MSME) has also become a key approach in supporting local economic development and job creation, which can also contribute to the achievement of these goals. However, financial literacy is a crucial factor in ensuring that the benefits from both efforts can be optimally and sustainably realized.

The current study focuses on investigating the influence of Agrosilvopasture and MSME incubation on SDGs achievement, incorporating financial literacy as a mediating variable. Agrosilvopasture and MSME incubation are believed to hold the potential for contributing to various aspects of sustainable development. However, their impact may be influenced by the financial literacy level of MSME entrepreneurs and farmers participating in both programs.

SDGs, which have been promoted since 2015, have established a global agenda for addressing diverse socio-economic and environmental challenges. The goals are particularly relevant in rural areas, where livelihoods are often closely associated with agriculture and MSME (Chávez-Márquez et al., 2019). Therefore, this study aims to provide knowledge on the impact of Agrosilvopasture implementation, MSME incubation, and in the context of achieving SDGs in rural areas of Indonesia, with financial literacy serving as a mediator (Dasgupta et al., 2023; Yu et al., 2020)

In line with previous reports, Agrosilvopasture is an agroforestry practice that integrates crops, livestock, and trees into a single land unit. The system holds the potential to promote sustainability in agriculture while contributing to SDGs objectives (Abhayawansa et al., 2021; Lima et al., 2022). Several reports, such as (Hanum, 2019) have demonstrated that it can enhance rural livelihoods and environmental preservation, thereby supporting SDGs targets, including poverty eradication, hunger alleviation, and climate action.

MSME incubation programs have been reported to provide support and resources for MSME, which often form the backbone of rural economies. In this context, (Nursini, 2020; Sultana & Gupta, 2023) revealed the role of MSME incubation in poverty alleviation and rural development. The programs support SDGs targets related to decent employment, economic development, industry,

innovation, and infrastructure.

According to previous studies, financial literacy is essential for guaranteeing that economic initiatives, such as Agrosilvopasture and MSME incubation can lead to sustainable outcomes. For example, (Akande et al., 2023) reported the importance of financial literacy in rural areas to support sustainable livelihoods. In addition, (Obi-Anike et al., 2023) stated its economic importance, observing that individuals with elevated levels were inclined towards making superior financial decisions. This contributes to SDGs targets, such as quality education and reducing inequality.

Agrosilvopasture and MSME incubation potentially have a supportive relationship for sustainable development in rural areas (Febriantoko et al., 2023). Building on this idea, Agrosilvopasture, as an Agroforestry practice, can contribute to SDGs, including poverty alleviation and climate action (Mayasari et al., 2023). Meanwhile, MSME incubation is a program that supports the development of MSME, playing a role in achieving goals related to employment, economic growth, and innovation (Masnila et al., 2024; Mayasari et al., 2023). The two strategies are considered to complement each other in simultaneously achieving multiple SDGs targets in rural areas.

Agroforestry in Indonesia has been long recognized and is associated with policies such as social forestry. Its classification involves

various aspects, and its functions encompass the maintenance of agricultural yields, support for Watershed Areas, reduction of greenhouse gases, and preservation of biodiversity (Wulandari et al., 2020). Agrosilvopasture, as a form of agroforestry, has garnered interest and recognition due to its values and sustainability within its system. This enhancement is supported by awareness, research, roles in climate change, large-scale implementation, government support, training, business models, partnerships, and the application of technology. Agrosilvopasture is also relevant to social forestry programs in Indonesia (Salatalohy & Ryadin, 2023).

In 2024, the Indonesian government responded to the challenges faced by MSMEs by planning a business incubation program (Lisnawati, 2023). This program is targeted at MSME players who already possess digital capabilities in marketing their products. Through incubation, the government aims to improve marketing, funding, business operations, innovation, competitiveness, and income for MSMEs in the digital market. Business mentoring will also be provided to enhance the capacity and business capabilities of MSME players and increase sales. Consistent government support is deemed crucial, and Commission VI of the Indonesian House of Representatives is anticipated to play a crucial role in maintaining support for the sustainability of MSMEs, thereby bolstering their contribution to the

national economy. The implementation of Agrosilvopasture and MSME incubation in rural areas of Indonesia related to SDGs with the mediation of financial literacy faces several challenges. Farmers and MSMEs may have a limited understanding of the benefits of Agrosilvopasture, and low financial literacy could pose a constraint.

Resource challenges, climate change, and weather uncertainty impact sustainability (Berisha et al., 2024). Government support, stakeholder involvement, and potentially inadequate technological infrastructure serve as potential barriers. Education, training, and efforts to maintain business sustainability become essential. Financial literacy needs enhancement, while strengthening networks and partnerships among stakeholders can create a supportive ecosystem (Charfeddine et al., 2024). Collaborative efforts between institutions are key to addressing these issues. This research is crucial in formulating policies and effective implementation strategies for sustainable development in rural Indonesia.

Previous research provided a comprehensive overview, highlighting several gaps that need attention. Firstly, the impact of financial literacy is not clearly defined, where the research has not delved into the aspects or mechanisms of financial literacy that can influence the success of Agrosilvopasture and MSME Incubation in achieving SDGs (Toni &

Theng, 2024). Secondly, previous research has focused solely on the collective impact of Agrosilvopasture and MSME Incubation, without comprehensively investigating how their joint implementation can generate synergistic effects. Thirdly, the study does not address the context of rural Indonesia, where a more comprehensive explanation is needed on how the achievement of SDGs in Indonesia can be influenced by the implementation of agrosilvopasture and MSME incubation. Fourthly, there is a need for more specific empirical evidence for the Indonesian context to strengthen the applicability of this research. Fifthly, previous research has also overlooked perspectives from stakeholders such as local communities, MSME entrepreneurs, and policymakers, who can provide practical insights and potential challenges. Lastly, there is no explicit explanation in previous research regarding the obstacles or challenges that may be encountered during the implementation of Agrosilvopasture and MSME Incubation. This research seeks to fill these gaps and provide a more thorough comprehension of the integrated implementation of Agrosilvopasture, MSME Incubation. When viewed collectively, financial literacy can impact the achievement of SDGs in rural Indonesia. By identifying and addressing these gaps, this research is expected to offer valuable insights for more effective and targeted strategies in sustainable development in the region. Recent studies by (Liu et al., 2023), have identified the potential intermediary

function of financial literacy in connection sustainable agricultural practices with rural development. This indicates the benefits of Agrosilvopasture and the optimization of MSME incubation can occur when individuals exhibit elevated levels of financial literacy.

The principal objective of this study is to examine how the achievement of SDGs in rural Indonesia is influenced by means of implementing agrosilvopasture and MSME incubation, considering the role of financial literacy as a mediating factor. This research aims to address gaps in previous knowledge, including the lack of specificity regarding the influence of financial literacy, insufficient research on the joint implementation of Agrosilvopasture and MSME incubation, and the need for specific empirical evidence for the Indonesian context. Through the identification and resolution of these gaps, this study is anticipated to offer insights for the formulation of strategies for sustainable development in rural areas of Indonesia.

METHODS

In this study, the SmartPLS software was employed for data analysis to explore the impact of implementing Agrosilvopasture and MSME incubation on the SDGs with financial literacy as a mediator in rural areas of Indonesia. This study employed an explanatory research design to elucidate the causal relationships among the independent variables

(Agrosilvopasture and MSME incubation implementation), the mediating variable (financial literacy), and the dependent variable (SDGs). Considering the gaps in previous research and existing issues, the hypotheses formulated in this study are delineated as follows:

The practice of agrosilvopasture in the agriculture and livestock sectors can enhance financial understanding among rural communities (Mukhlis et al., 2022). However, further research is needed to evaluate whether agrosilvopasture implementation significantly influences financial literacy. Although agrosilvopasture offers various environmental and economic benefits, it may not directly impact financial literacy (de Oliveira et al., 2023; Hayat et al., 2020; López-Hidalgo et al., 2018). Financial literacy requires a deep understanding of financial concepts that may not be fully related to agrosilvopasture practices (Smolo et al., 2023; Ünvan, 2021). External factors such as market changes and policies can also affect financial literacy without being related to agrosilvopasture implementation (Fauzi et al., 2020; Magistro, 2022; Mani, 2022; Pinto, 2016; Shvaher et al., 2021). From this perspective, it is assumed that agrosilvopasture implementation does not directly or significantly improve financial literacy. Therefore, it is hypothesized that the implementation of agrosilvopasture does not have a significant positive impact on financial literacy.

H1: Implementation of Agrosilvopasture to Financial Literacy has no significant positive effect

Agrosilvopasture, as a farming practice that integrates crops, forests, and livestock, has been widely recognized to provide economic, social, and environmental benefits that support the achievement of SDGs (Dissanayaka et al., 2023; Niggli et al., 2023; Putra et al., 2022). The concept of agrosilvopasture encompasses principles such as reducing greenhouse gas emissions, conserving soil and water, and enhancing economic sustainability for farmers (Sturiale et al., 2020; Venturi et al., 2022). The implementation of agrosilvopasture has the potential to improve food sustainability, enhance environmental conditions, and increase social welfare in farming communities (Lal, 2020; Marchetti et al., 2020). Therefore, it is assumed that agrosilvopasture implementation will significantly contribute positively to SDG achievement. Thus, the hypothesis is proposed that the implementation of agrosilvopasture has a significant positive influence on SDGs.

H2: Implementation of Agrosilvopasture to Sustainable Development Goals has a significant positive effect

A better understanding of finance can positively contribute to the achievement of various SDG targets, such as poverty alleviation, gender equality, sustainable economic growth, and environmental protection (Sumekar & Haryadi, 2016). Therefore, it is assumed that higher levels of financial literacy will support efforts to achieve SDGs. Achieving sustainable development

goals requires innovative policies in financial development and natural resource management, including research subsidies and increased financial literacy to attain SDG targets (Anwar et al., 2022; Kastrinos & Weber, 2020; Sutherland et al., 2021). Under these conditions, it is assumed that higher financial literacy will act as a driver to contribute to the achievement of various SDG targets in rural areas. Thus, the hypothesis proposed is:

H3: Financial Literacy has a positive impact on Sustainable Development Goals.

The theory of financial literacy posits that improved financial management understanding can boost the performance of MSMEs (Kulathunga et al., 2020; Miswanto et al., 2024; Wijaya & Said, 2024). Meanwhile, incubation theory suggests that through the incubation process, MSMEs can acquire new knowledge and skills, including financial literacy, necessary to improve operational efficiency and business growth (Franco et al., 2023; Zaidi et al., 2023). Business development theory supports the notion that improving financial literacy can optimize the use of financial resources and manage financial risks (Lone & Bhat, 2024; Yakob et al., 2021), while financial decision-making theory emphasizes the importance of making sound financial decisions (Kumar et al., 2023; Sarker, 2021). Therefore, the hypothesis proposed is:

H4: Incubation of MSMEs to Financial Literacy has a significant positive impact.

MSME incubation provides an environment conducive to the growth and development of MSMEs by granting access to necessary resources, knowledge, and networks (Breivik-Meyer et al., 2020; Haneberg & Aaboen, 2020; Sohail et al., 2023). Through the incubation process, MSMEs could gain a better understanding of sustainable business practices, including environmental management practices, efficient resource utilization, and inclusive economic growth (Gabarret & d'ANDRIA, 2021; Wu et al., 2020). By enhancing the capacity and competitiveness of MSMEs, incubation can contribute to the achievement of various SDGs, such as poverty alleviation, sustainable economic growth, food security, and access to decent employment (DiBella et al., 2023; Smith et al., 2022). Thus, it is assumed that MSME incubation will have a significant positive impact on SDG achievement. Therefore, the hypothesis proposed is:

H5: Incubation of MSMEs to Sustainable Development Goals has a significant positive effect.

The agroforestry theory and sustainable practices (Abhayawansa et al., 2021) support the view that agrosilvopasture can contribute to various aspects of the SDGs, such as reducing poverty and conserving the environment. Therefore, a hypothesis is proposed based on the belief that the implementation of agrosilvopasture will positively impact SDG achievement. This aims to test whether agrosilvopasture

implementation can significantly support SDG achievement, especially within the agricultural and livestock sectors in rural areas. MSME incubation programs have been linked to economic sustainability and local development (Sultana & Gupta, 2023). Based on this description, it is assumed that MSME incubation will have a positive impact on SDG achievement. The combination of agrosilvopasture implementation and MSME incubation programs can create synergy in supporting financial literacy (Breuer et al., 2019). Therefore, the implementation of both can be assumed to have a positive impact on financial literacy. Therefore, the hypothesis proposed is:

H6: Implementation of Agrosilvopasture and Incubation of MSMEs have a positive effect on Sustainable Development Goals through the mediation of Financial Literacy.

Data were collected through field surveys in Pagar Alam City, Indonesia, using purposive sampling to select respondents from various community groups. The study investigated the impact of Agrosilvopasture (X1) and MSME Incubation (X2) on Sustainable Development Goals (Y), with Financial Literacy as the mediating variable (M). The sample included 100 respondents from a population of 916, determined using the Slovin formula.

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n = Sample size/number of respondents

N = Population size

e = Percentage of tolerance for the precision error in sample selection that can still be tolerated; e = 0.1.

$$n = \frac{916}{1 + 916(0,1)^2} = \frac{916}{10,16} = 90,16 \rightarrow 100 \text{ Respondents}$$

The analytical method employed in this study was Partial Least Squares (Sarstedt et al., 2021). The steps for analyzing the report data included (1) Confirmatory testing, (2) Path model testing (Structural Equation Model), (3) Mediation testing, and (4) Model goodness-of-fit testing. Study hypotheses were tested by examining parameter coefficients, t-statistic values, and significance (P-values) in the path model analysis (Hair Jr et al., 2023, Kline, 2023). The results of the analysis were used to confirm or reject the report hypotheses, and the analysis tool used was SmartPLS.

The practice of Agrosilvopasture in agriculture and livestock could improve financial literacy in rural communities (Mukhlis et al., 2022). This report explored whether Agrosilvopasture significantly enhanced financial literacy and tested the hypothesis that MSME incubation positively affected financial literacy of stakeholders (Hanum, 2019). The combined hypothesis was that Agrosilvopasture and MSME incubation positively impacted financial literacy and SDGs.

Higher financial literacy supports SDGs targets like poverty reduction, gender equality, sustainable growth, and environmental protection (Sumekar

and Haryadi, 2016). Theories of Agroforestry and sustainable practices suggest that Agrosilvopasture positively impacts SDGs (Abhayawansa et al., 2021). MSME incubation programs are linked to improved economic sustainability (Sultana and Gupta, 2023). The combination of Agrosilvopasture and MSME incubation was hypothesized to positively influence SDGs through enhanced financial literacy (Breuer et al., 2019).

RESULTS AND DISCUSSION

Results

The measurement model evaluation analyzed the association between indicators and constructs, focusing on discriminant and convergent validity. Convergent validity involved three stages: validating indicators, establishing construct reliability, and determining Average Variance Extracted (AVE). Discriminant validity was assessed by examining cross-loadings and comparing the square root of AVE with construct correlations. SmartPLS output provided factor loadings and t-statistics, retaining only factor loadings above 0.7.

After modification by removing indicators with values below 0.7, the validity test results were presented above. No indicators had values below 0.7 anymore, indicating that all dimensions and indicators were valid. In the following table, the SmartPLS output produced the Cronbach's Alpha, which was showed as follows,

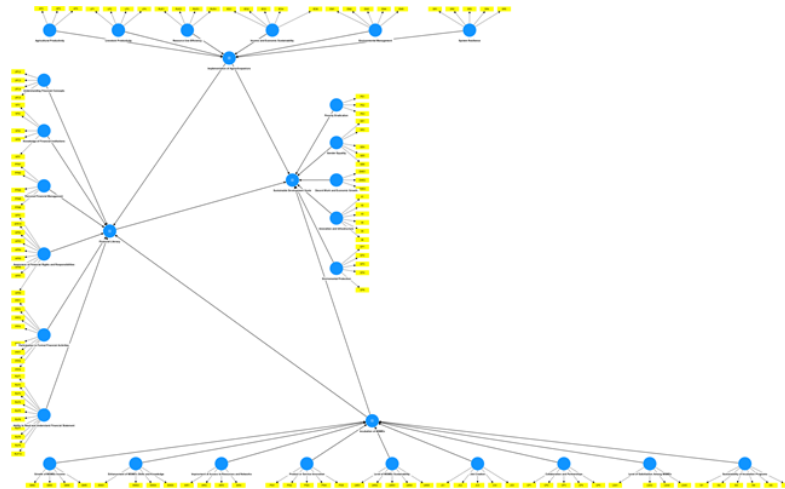


Figure 1. Model Diagram
Source: Data processing results (2023)

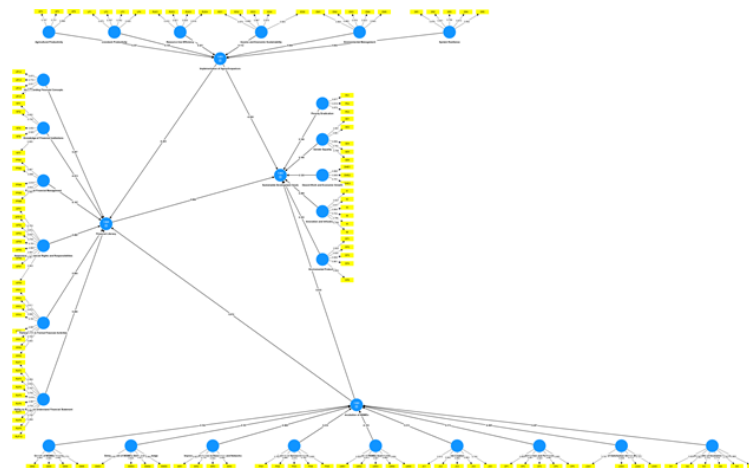


Figure 2. Validity Testing Model
Source: Data processing results (2023)

Table 1. Cronbach's Alpha

	Cronbach's Alpha	rho_A	Composite Reliability
Implementation of Agrosilvopasture	0.960	0.983	0.981
Incubation of MSME	0.986	0.987	0.986
Financial Literacy	0.986	0.988	0.986
Sustainable Development Goals	0.974	0.977	0.975

Source: Data processing results (2023)

In the table 1 above, the results of Cronbach's Alpha analysis indicated that all variables in this study had values exceeding 0.7. Hence, all variables met the reliability

criteria.

Structural Model Testing and Mediation Testing

The testing of the structural

Table 2. R-Square

	R-square	R-square adjusted
Financial Literacy	0.998	0.998
Sustainable Development Goals	0.998	0.998

Source: Data processing results (2023)

Table 3. Path Coefficients (Mean, STDEV, T-Values)

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
Implementation of Agrosilvopasture -> Financial Literacy	-0,010	-0,013	0,012	0,853	0,198
Implementation of Agrosilvopasture -> Sustainable Development Goals	-0,028	-0,029	0,015	1,902	0,030
Incubation of MSMEs -> Financial Literacy	0,028	0,029	0,014	1,907	0,030
Incubation of MSMEs -> Sustainable Development Goals	0,037	0,038	0,016	2,305	0,012
Implementation of Agrosilvopasture -> Sustainable Development Goals	-0,048	-0,042	0,029	1,672	0,049

Source: Data processing results (2023)

model involved examining R-squared values. The table below showcased the outcomes generated by SmartPLS utilizing the calculate-PLS algorithm.

The R-square values presented in the table above indicated that the combined influence of the Agrosilvopasture implementation variable (X1) and the MSME Incubation variable (X2) on Financial Literacy (M) was 0.998. Similarly, the combined influence of the Implementation of Agrosilvopasture (X1), MSME Incubation (X2), and Financial Literacy (M) on Sustainable Development Goals (Y) was also 0.998.

Significance Test of Influence

The results Table 3 were

derived from the SmartPLS output using the calculate-PLS Bootstrapping method. The results obtained from calculate-PLS Bootstrapping regarding the analysis and evaluation of the Structural Model (Inner Model) were as follows Figure 3.

Implementation of Agrosilvopasture and Financial Literacy

This study found that Agrosilvopasture did not positively impact financial literacy in rural communities. Using the PLS-SEM method, it was shown that while Agrosilvopasture enhanced environmental and economic sustainability, it did not improve financial literacy, showing a negative path coefficient. Previous studies

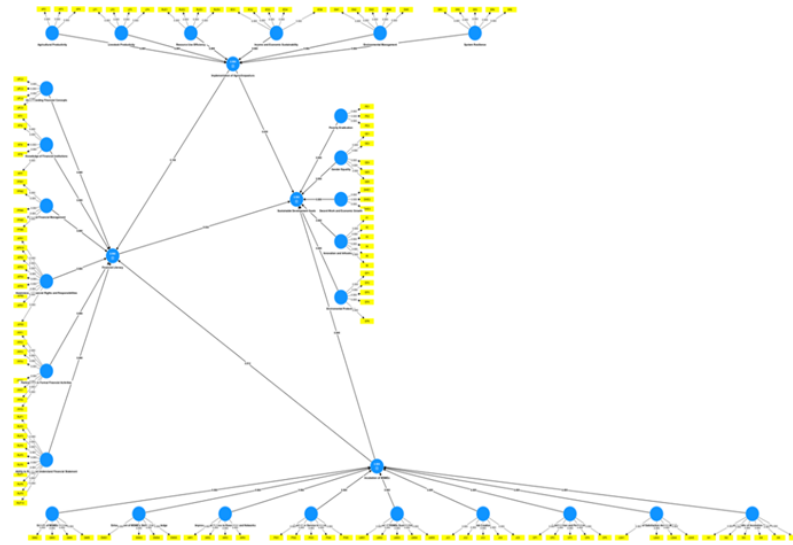


Figure 3. Structural Model (Inner Model)

Source: Data processing results (2023)

indicated Agrosilvopasture improved soil health, biodiversity, and productivity (Lima et al., 2022; Venturi et al., 2022), but did not link it to financial literacy. Financial literacy typically requires formal education or specialized training (Smolo et al., 2023). (Mani, 2022) showed improvements in financial literacy were driven by education, market dynamics, and policies, not agricultural practices. (Mukhlis et al., 2022) and (Hayat et al., 2020) also found minimal direct impact of Agrosilvopasture on financial literacy. This study explored financial literacy as a mediator between Agrosilvopasture and SDGs, concluding that while Agrosilvopasture had environmental and economic benefits, it did not enhance financial literacy, underscoring the need for additional financial education programs.

Implementation of Agrosilvopasture and Sustainable Development Goals

This study showed that Agrosilvopasture significantly contributed to achieving SDGs by reducing poverty, alleviating hunger, and enhancing environmental sustainability (Chávez-Márquez et al., 2019). Integrating trees, crops, and livestock improved biodiversity and ecosystem services (Abhayawansa et al., 2021), soil health, erosion control, and carbon sequestration, supporting SDG 13 and SDG 15 (Mukhlis et al., 2022). Diversified production systems increased agricultural income and economic resilience, supporting SDG 1 and SDG 8 (Lima et al., 2022), and improved food availability in rural areas, supporting SDG 2 (Hanum, 2019). Additionally, Agrosilvopasture created job opportunities and improved living standards, supporting SDG 11 (Putra et al., 2022). Both reports agreed on the environmental and

economic benefits and contributions to various SDGs targets (Abhayawansa et al., 2021; Hanum, 2019). This study provided specific empirical evidence from Indonesia, adding context to general findings (Mukhlis et al., 2022). In conclusion, Agrosilvopasture substantially contributed to SDGs by enhancing environmental sustainability, economic resilience, food security, social well-being, and climate resilience.

Financial Literacy and Sustainable Development Goals

This study demonstrated that financial literacy significantly influenced the achievement of SDGs in rural areas. Financial literacy improved the understanding of financial principles, promoted sustainable economic growth, reduced poverty, and improved social and environmental outcomes (Anwar et al., 2022, Sumekar and Haryadi, 2016). Financial knowledge helped individuals make informed decisions, manage finances, and invest wisely, contributing to SDG 1 and SDG 8 (Kulathunga et al., 2020, Miswanto et al., 2024). This also supported SDG 10 by enabling economic status improvement (Sarker, 2021, Yakob et al., 2021). Financial literacy facilitated access to financial services such as banking and credit, thus aiding the progression of SDG 9 (Industry, Innovation, and Infrastructure) and SDG 11 (Kastrinos & Weber, 2020). These also empowered women, supporting SDG 5 by enhancing economic independence (Wu et al.,

2020). Moreover, financial literacy encouraged responsible financial behaviors, contributing to SDG 12 by reducing waste and promoting sustainable resource use (Anwar et al., 2022, Sutherland et al., 2021). This factor supported SDG 13 by promoting investments in sustainable technologies and practices (DiBella et al., 2023, Smith et al., 2022). Previous reports aligned with this study in demonstrating that financial literacy was supported in economic growth and poverty reduction (Kulathunga et al., 2020, Sumekar and Haryadi, 2016) and access to financial services (Wu et al., 2020). However, it provided local empirical evidence from Indonesia, highlighting specific challenges and opportunities in rural areas, differing from a broader report (Anwar et al., 2022, Yakob et al., 2021). In conclusion, the significant role played by financial literacy in achieving SDGs could enhance economic growth, reduce poverty, promote financial inclusion, empower individuals, and support sustainable consumption and climate action.

Incubation of MSME and Financial Literacy

The current study demonstrated that the incubation of MSME had a significant positive impact on financial literacy. Incubation programs enhanced MSME entrepreneurs' financial knowledge and skills through comprehensive education and training in budgeting, financial planning, accounting, and financial reporting (Franco et al., 2023, Kulathunga et al., 2020, Miswanto et al., 2024). These

programs also provided access to financial resources such as loans, grants, and investment opportunities, along with guidance on how to utilize these resources effectively, thereby improving financial literacy (Haneberg & Aaboen, 2020). Mentorship from experienced mentors helped entrepreneurs understand and apply complex financial concepts in their businesses (Asteria et al., 2020; Sohail et al., 2023). Incubation also promoted the adoption of better financial practices such as financial monitoring, risk management, and strategic planning, which contributed to improved financial literacy (Franco et al., 2023, Zaidi et al., 2023). MSME owners with financial literacy were more adept at making strategic decisions that improved sustainability and business performance (Kulathunga et al., 2020, Miswanto et al., 2024, Peng and Mao, 2023). This report aligned with previous studies emphasizing the importance of financial education and training in MSME incubation programs (Franco et al., 2023, Kulathunga et al., 2020). This also confirmed that access to financial resources and services was crucial for improving financial literacy (Haneberg & Aaboen, 2020). However, this study provided specific empirical evidence from rural areas in Indonesia, highlighting unique challenges and opportunities there, differing from broader reports (Mabula & Ping, 2018; Miswanto et al., 2024). In conclusion, the findings supported the hypothesis that MSME incubation improved financial literacy

through financial education, access to resources, mentorship, and networking opportunities, all contributing to better financial management and MSME success.

Incubation of MSME and Sustainable Development Goals

This report demonstrated that the incubation of MSME had a positive impact on achieving SDGs. MSME incubation programs promoted economic development, job creation, innovation, and sustainable business practices, contributing to various SDGs (Sohail et al., 2023). These programs provided support, resources, and guidance for new businesses, stimulating economic growth and job creation, supporting SDG 8 and SDG 1 (DiBella et al., 2023, Franco et al., 2023, Haneberg and Aaboen, 2020). Innovation was driven through access to study and expert networks, supporting SDG 9 (Wu et al., 2020; Zaidi et al., 2023). Incubation programs also emphasized sustainable business practices, such as resource efficiency and waste reduction, contributing to SDG 12 and SDG 13 (DiBella et al., 2023, Franco et al., 2023, Smith et al., 2022, Sutherland et al., 2021). Additionally, these programs supported social inclusion by enabling underrepresented groups to start and grow businesses, supporting SDG 5 and SDG 10 (DiBella et al., 2023; Kulathunga et al., 2020; Miswanto et al., 2024; Sohail et al., 2023). MSME participating in incubation programs demonstrated better business performance and resilience, supporting regional

economic stability and growth, and contributing to SDG 8 and SDG 11 (DiBella et al., 2023, Franco et al., 2023, Haneberg and Aaboen, 2020, Zaidi et al., 2023). Both studies agreed that MSME incubation programs enhanced economic growth and job creation (Sohail et al., 2023). This study confirmed that MSME incubation promoted innovation, which was crucial for industrial development and sustainability (Wu et al., 2020). However, this report provided broader and more holistic empirical evidence (Smith et al., 2022, Sutherland et al., 2021). In conclusion, MSME incubation supported SDGs by enhancing business performance and resilience and contributing to the economic, social, and environmental well-being of communities.

Mediation of Financial Literacy in the Influence of Implementation of Agrosilvopasture and MSME Incubation on SDGs

The study demonstrated that implementing Agrosilvopasture and MSME incubation positively impacted SDGs through improved financial literacy. This boosted farmers' and MSME owners' financial decision-making, productivity, and profitability, supporting SDG 8 and SDG 1 by promoting decent work, economic growth, and poverty eradication (Akande et al., 2023, Franco et al., 2023, Liu et al., 2023, Miswanto et al., 2024). Efficient resource management, facilitated by financial literacy, supported SDG 12- emphasizing responsible consumption and production, as well

as SDG 13-aimed at climate action (Smith et al., 2022). Financial knowledge also facilitated access to financial services, supporting SDG 9, which was related to industry, innovation, and infrastructure. SDG 11 aimed at sustainable cities and communities (Sohail et al., 2023). Financially literate farmers and MSME owners were more likely to adopt environmentally friendly practices, supporting SDG 15-which was dedicated to life on land, and SDG 13-which targeted climate action (Lima et al., 2022). Financial literacy also empowered marginalized groups, supporting SDG 5-which advocated for gender equality, and SDG 10-which aimed to reduce inequalities (Wu et al., 2020). Both studies confirmed that financial literacy enhanced business performance and sustainability, supporting SDG 2-which addressed Zero Hunger. However, SDG 8 was aimed at promoting Decent Work and Economic Growth, and SDG 11-Sustainable Cities and Communities (Franco et al., 2023, Zaidi et al., 2023). In conclusion, financial literacy significantly contributed to realizing the benefits provided by Agrosilvopasture and MSME incubation programs. This enhancement supported the economic, social, and environmental well-being of communities.

CONCLUSION AND SUGGESTION

The report findings suggested that financial literacy, Agrosilvopasture implementation, and MSME incubation were key factors in supporting SDGs. Financial literacy showed

a significant positive correlation with various SDGs targets and partially mediated the relationship between Agrosilvopasture, MSME incubation, and SDGs attainment. Therefore, it was essential to prioritize enhancing financial literacy in rural communities, alongside implementing Agrosilvopasture and supporting MSME, to effectively achieve SDGs. Future studies and programs must focus on broader financial literacy initiatives, strengthening these factor practices, and improving facilities for MSME to further rural communities' contributions to sustainable and inclusive SDGs achievement.

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