

The Influence of Economic Sustainability, Environmental Initiatives, and Farmers' Quality of Life on the Development of Social Entrepreneurship in the Agricultural Sector in West Java

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ABSTRACT

This study explores the relationship amongst farmers' quality of life, environmental initiatives, economic sustainability, and the growth of social entrepreneurship in the agricultural sector in West Java. The study investigates the correlations between these variables on a sample of 200 farmers using structural equation modeling. The results show a strong positive correlation between the growth of social entrepreneurship, environmental initiatives, farmers' quality of life, and economic sustainability. The study emphasizes how crucial it is to support a comprehensive and integrated strategy that takes into account farmer well-being, environmental sustainability, and economic stability in order to support the expansion of socially entrepreneurial endeavors in the agricultural sector.

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1. INTRODUCTION

The agricultural sector in West Java plays a significant role in the region's economy, providing food and livelihood for the majority of the population. However, it faces various challenges related to economic sustainability, environmental issues, and the overall quality of life for farmers. Economic development studies in West Java have highlighted the importance of the agricultural sector in driving regional growth [1]. Additionally, the proliferation of commercialization in urban agriculture has led to the dislocation of small-scale farmers, exacerbating food insecurity among low-income inhabitants [2]. Furthermore, the narrowing of agricultural land due to population growth and urbanization has put

pressure on maintaining agricultural productivity, particularly in rice production [3]. These challenges require attention to ensure the long-term sustainability and welfare of peasant communities in West Java.

Social entrepreneurship in agriculture has emerged as a potential catalyst for transformative change in the agricultural landscape. It offers innovative solutions that address economic viability, environmental sustainability, and the overall well-being of peasant communities. The rise of social entrepreneurship in agriculture is evident in the development of agrarian entrepreneurship under the influence of strengthening the role of local authorities and changes in the regulatory framework for land resources [4]. Additionally, the implementation of organic agricultural

production is seen as a way to ensure sustainable development and the restoration of post-war agriculture [5]. Furthermore, understanding agricultural innovation is crucial for improving farmers' production, profitability, and management practices [6]. Lastly, vocational high schools in agriculture play a role in conveying sustainable agribusiness messages and producing graduates with competence in the agricultural sector [7].

This study aims to investigate the intricate connections among farmers' quality of life, environmental initiatives, and economic sustainability in West Java, as well as the combined influence of these links on the growth of social entrepreneurship in the agricultural sector. This study aims to investigate the dynamic interaction among farmers' quality of life, environmental initiatives, economic sustainability, and the burgeoning area of social entrepreneurship in West Java's agricultural landscape.

2. LITERATURE REVIEW

2.1 *Economic Sustainability in Agriculture*

Economic sustainability in agriculture is crucial for the long-term viability of the sector. It encompasses income stability, access to markets, and financial resilience, which are essential for sustaining agricultural practices [8] [9]. Farmers need resilient economic structures to weather market fluctuations, invest in modern technologies, and ensure a steady income stream [10]. Studies emphasize the importance of creating an environment conducive to innovation and growth, which requires resilient economic structures [11]. Economic sustainability enables farmers to adapt to changing market conditions, invest in sustainable practices, and contribute to the overall development of the agricultural sector [12]. By ensuring a stable income and access to markets, economic sustainability supports the adoption of sustainable agricultural practices and fosters long-term growth and resilience in the sector.

2.2 *Environmental Initiatives in Agriculture*

The integration of environmentally friendly practices in agriculture has become imperative in the face of global climate change and environmental degradation. Sustainable agriculture plays a significant role in mitigating the adverse impacts of conventional farming on ecosystems. Practices such as organic farming, agroecology, and conservation agriculture have gained prominence for their potential to enhance soil health, reduce water usage, and minimize the ecological footprint of agriculture [13] [14] [15]. The literature suggests that effective environmental initiatives can contribute not only to environmental conservation but also to the long-term productivity and resilience of the agricultural sector [16].

2.3 *Farmers' Quality of Life*

The well-being of farmers encompasses various dimensions of their lives, including health, education, and social support. It is argued that farmers' quality of life goes beyond economic indicators and that improved well-being is not only an end goal but also a means to foster sustainable agricultural practices. Holistic approaches are emphasized to address the socio-economic challenges faced by farmers, recognizing that improved well-being contributes to increased productivity and resilience [17] [18].

2.4 *Social Entrepreneurship in Agriculture*

Social entrepreneurship in agriculture is defined as innovative and sustainable approaches that aim to create social value [19]. It goes beyond profit-making and focuses on bringing about positive social and environmental change [20]. In the context of agriculture, social entrepreneurship has the potential to bridge gaps in traditional agricultural models and foster resilience, inclusivity, and sustainable development [21]. By introducing new approaches and practices, social entrepreneurship can address societal and environmental challenges in the agricultural sector [20]. These initiatives aim to create social impact by improving the

quality of life, empowering marginalized groups, and promoting sustainable products and production techniques [22]. Social entrepreneurship in agriculture can contribute to the achievement of the Sustainable Development Goals by addressing issues such as poverty, environmental protection, and energy security. Overall, social entrepreneurship in agriculture represents a transformative approach that combines innovation, sustainability, and social value creation to bring about positive change in the agricultural sector.

2.5 Gaps in the Literature

Although each of the aforementioned issues has been thoroughly examined on its own, there is a clear deficiency in the thorough examination of their interdependencies, especially when considering the agricultural sector in West Java. Few research has looked at the connections between environmental activities, farmers' quality of life, economic sustainability, and the rise of social entrepreneurship at the same time. By offering a comprehensive understanding of the intricate relationships between these variables and illuminating potential trade-offs and synergies that affect the course of social entrepreneurship in West Java's agricultural environment, this research seeks to close this gap.

Hypothesis 1: Economic Sustainability and Social Entrepreneurship. The literature suggests a positive relationship between economic sustainability initiatives in the agricultural sector and the development of social entrepreneurship among farmers in West Java.

Hypothesis 2: Environmental Initiatives and Social Entrepreneurship. Existing research indicates a correlation between environmental initiatives, such as sustainable farming practices, and the growth of social entrepreneurial activities in West Java's agricultural landscape.

Hypothesis 3: Farmers' Quality of Life and Social Entrepreneurship. The literature hypothesizes that improvements in farmers' quality of life, encompassing factors like education, health, and social support, are positively associated with

increased social entrepreneurial ventures in the agricultural sector of West Java.

3. METHODS

3.1 Research Design

This study adopts a quantitative research design to systematically collect and analyze data, providing a solid basis for exploring the complex relationships between economic sustainability, environmental initiatives, farmers' quality of life, and social entrepreneurship in West Java's agricultural sector. The use of quantitative methods enabled quantification of variables, statistical analysis, and identification of patterns and correlations.

A stratified random sampling approach was used to ensure representation of diverse characteristics in West Java's agricultural sector. Strata were based on geographic location, farm size, and socio-economic background. The minimum target sample size of 120 is based on the sum of the number of indicators multiplied by 10 in SEM. The end result was 200 farmers, selected from different regions, including rural and peri-urban areas. This approach aims to get a comprehensive picture of the agricultural landscape, taking into account the heterogeneity that exists in West Java.

3.2 Data Collection

Data is collected through a structured survey designed to gather information on economic sustainability, environmental initiatives, farmers' quality of life, and social entrepreneurship. The survey instrument will include closed-ended questions, 1-5 Likert scale items, and a section dedicated to socio-demographic information. In addition, secondary data on existing social entrepreneurship initiatives will be collected from government and non-government sources.

The survey was conducted through face-to-face interviews with farmers, to ensure a high response rate and allow for clarification of the survey questions if needed. Ethical considerations, including consent and

confidentiality, will be strictly adhered to throughout the data collection process.

3.3 Data Analysis

Structural Equation Modeling with Partial Least Squares (SEM-PLS) is a powerful and flexible technique suitable for exploring complex relationships among variables, making it well suited to the multidimensional focus of this study. SEM-PLS allows the assessment of relationships between latent constructs and observed variables, taking into account measurement errors and providing a more accurate representation of the underlying relationship [1]. It enables the evaluation of measurement models by analyzing confirmatory factors to validate the measurement scale [2]. Additionally, SEM-PLS allows for the assessment of the structural relationship between variables and the testing of hypothesized relationships using path coefficients [3]. It also facilitates the examination of indirect and direct influences between variables [4]. The method provides an overall fit evaluation of structural models and interpretation of path coefficients and their significance [5]. By using SEM-PLS, this study aims to unravel the complicated interdependencies among variables and provide a data-driven understanding of the factors affecting social entrepreneurship in West Java's agricultural sector.

4. RESULTS AND DISCUSSION

4.1 Demographic Sample

In this section, the sample population's demographics (N=200) are analyzed. Possible correlations between these characteristics and the main research variables—economic sustainability, environmental initiatives, farmers' quality of

life, and social entrepreneurship in West Java's agricultural sector—are also explored. The following details are revealed by the study participants' sample demographic profile. Geographically speaking, 40% of the sample was from peri-urban areas and 60% of the sample was from rural areas. Regarding farm size, smallholder farms accounted for 30% of the sample, medium-sized farms for 45%, and bigger farming operations for 25%. Twenty percent of the participants were from a low socioeconomic background, having completed just primary school; fifty percent had completed high school; and thirty percent had completed college or above. Regarding earnings, 25% were low earners (below average), 50% were middle earners (normal), and 25% were rich earners (above average).

4.2 Measurement Model

The measurement model provides valuable insights into the reliability and validity of the latent constructs under investigation: Economic Sustainability (ES), Environmental Initiatives (EI), Farmers' Quality of Life (FQL), and Development of Social Entrepreneurship (DSE). The loading factors, Cronbach's Alpha, Composite Reliability, and Average Variance Extracted (AVE) values are used to interpret the results. These measures help assess the internal consistency and reliability of the constructs. Cronbach's Alpha is used to determine the internal consistency of the items within each construct. Composite Reliability provides an estimate of the reliability of the latent constructs. Average Variance Extracted (AVE) measures the amount of variance captured by the construct relative to the measurement error. These measures are important for establishing the reliability and validity of the latent constructs in the measurement model.

Table 1. Validity and Reliability

Variable	Code	Loading Factor	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Economic Sustainability	ES.1	0.884	0.905	0.940	0.840
	ES.2	0.937			
	ES.3	0.928			
	EI.1	0.791	0.798	0.882	0.714

Environmental Initiatives	EI.2	0.877			
	EI.3	0.863			
Farmers' Quality of Life	FQL.1	0.844	0.775	0.863	0.677
	FQL.2	0.785			
	FQL.3	0.839			
Development of Social Entrepreneurship	DSE.1	0.893	0.840	0.904	0.758
	DSE.2	0.877			
	DSE.3	0.841			

Economic Sustainability (ES) is measured using three indicators: ES.1, ES.2, and ES.3. These indicators have high loading factors, ranging from 0.884 to 0.937, indicating a strong relationship with the latent construct of Economic Sustainability. The internal consistency of the Economic Sustainability construct is excellent, with a Cronbach's Alpha of 0.905, suggesting high reliability. The Composite Reliability value of 0.940 further confirms the reliability of the Economic Sustainability construct. Economic Sustainability explains a substantial proportion of the variance in the observed variables, with an Average Variance Extracted (AVE) of 0.840. Environmental Initiatives (EI) is measured using three indicators: EI.1, EI.2, and EI.3. These indicators have strong loading factors, ranging from 0.791 to 0.877, indicating a robust relationship with the latent construct of Environmental Initiatives. The Cronbach's Alpha of 0.798 suggests good internal consistency in measuring Environmental Initiatives. The Composite Reliability value of 0.882 confirms the reliability of the Environmental Initiatives construct. The AVE of 0.714 indicates that Environmental Initiatives explains a considerable proportion of the variance in the observed variables.

Farmers' Quality of Life (FQL) is measured using three indicators: FQL.1, FQL.2, and FQL.3. These indicators have substantial loading factors, ranging from 0.785 to 0.844, indicating a strong relationship with the latent construct of Farmers' Quality of Life. The Cronbach's Alpha of 0.775 suggests good internal consistency in measuring Farmers' Quality of Life. The Composite Reliability value of 0.863 confirms the reliability of the Farmers' Quality of Life construct. The AVE of 0.677 indicates that Farmers' Quality of Life explains a reasonable proportion of the variance in the observed variables. Development of Social Entrepreneurship (DSE) is measured using three indicators: DSE.1, DSE.2, and DSE.3. These indicators have high loading factors, ranging from 0.841 to 0.893, indicating a robust relationship with the latent construct of Development of Social Entrepreneurship. The Cronbach's Alpha of 0.840 suggests good internal consistency in measuring Development of Social Entrepreneurship. The Composite Reliability value of 0.904 confirms the reliability of the Development of Social Entrepreneurship construct. The AVE of 0.758 indicates that Development of Social Entrepreneurship explains a substantial proportion of the variance in the observed variables.

Table 2. Discrimination Validity

	Development of Social Entrepreneurship	Economic Sustainability	Environmental Initiatives	Farmers' Quality of Life
Development of Social Entrepreneurship	0.871			
Economic Sustainability	0.653	0.917		
Environmental Initiatives	0.644	0.732	0.845	

Farmers' Quality of Life	0.759	0.714	0.823	0.823
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Table 2 present the square root of AVE for each construct (Development of Social Entrepreneurship, Economic Sustainability, Environmental Initiatives, Farmers' Quality of Life) is higher than the correlations with other constructs, indicating discriminant validity. Each construct explains more variance in its own indicators than it

shares with other constructs. The correlations between different constructs are lower than the square root of AVE for each construct, suggesting that the constructs are distinct from each other. The shared variance between constructs is not dominant, further supporting discriminant validity.

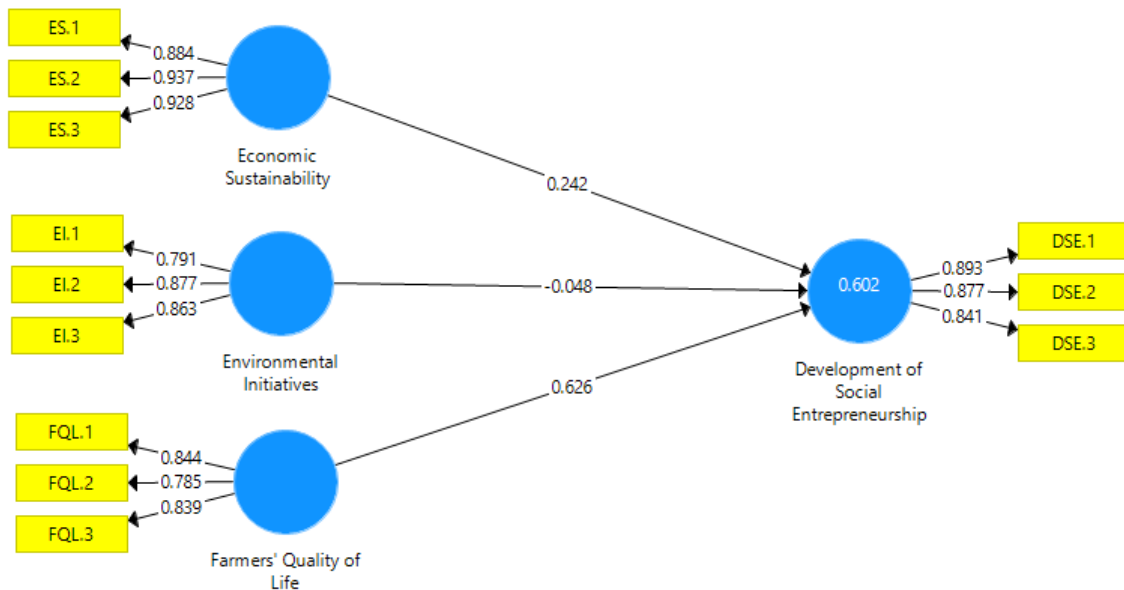


Figure 1. Internal Model Assessment

4.3 Goodness of Fit

Model fit indices are used to assess how well a structural equation model fits the observed data. The comparison between the Saturated Model and the Estimated Model helps evaluate the adequacy of the estimated model in representing the relationships among latent constructs [23] [24].

Table 3. Model Fit Test

	Saturated Model	Estimated Model
SRMR	0.103	0.103
d_ ULS	0.822	0.822
d_ G	0.430	0.430
Chi-Square	304.332	304.332
NFI	0.730	0.730

Both the Saturated Model and the Estimated Model have an SRMR of 0.103,

suggesting reasonable fit to the data. The values of d_ ULS and d_ G for both models are 0.822 and 0.430, respectively, indicating good fit. The Chi-Square values for both models are 304.332, which is non-significant and suggests good model fit. The NFI for both models are 0.730, indicating reasonable fit but with room for improvement.

Table 4. R Square

	R Square	R Square Adjusted
Development of Social Entrepreneurship	0.602	0.592

R-Square (R²) and R-Square Adjusted are important metrics in regression analysis, particularly in the context of structural equation modeling. They provide insights into the proportion of variance in the dependent variable that is explained by the

independent variables in the model. R-Square is a measure of the goodness of fit that indicates the proportion of variance in the dependent variable (Development of Social Entrepreneurship) explained by the independent variables (Economic Sustainability, Environmental Initiatives, Farmers' Quality of Life). An R-Square of 0.602 means that approximately 60.2% of the variability in the Development of Social Entrepreneurship can be explained by the combination of Economic Sustainability, Environmental Initiatives, and Farmers' Quality of Life in the model. R-Square Adjusted addresses the issue of overfitting by adjusting the R-Square value based on the number of predictors in the model and the sample size. An R-Square Adjusted of 0.592 means that after accounting for the number of predictors and the sample size, approximately

59.2% of the variance in the Development of Social Entrepreneurship is still explained by the independent variables. R-Square Adjusted is typically slightly lower than R-Square, and a smaller difference between the two suggests a more robust and stable model.

4.4 Structural Model

The structural model results provide insights into the relationships between the latent constructs, specifically Economic Sustainability, Environmental Initiatives, Farmers' Quality of Life, and their impact on the Development of Social Entrepreneurship in the agricultural sector of West Java. The presented information includes the original sample values (O), sample mean (M), standard deviation (STDEV), T Statistics ($|O/STDEV|$), and p-values for each structural path.

Table 5. Hypothesis Testing

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ($ O/STDEV $)	P Values
Economic Sustainability -> Development of Social Entrepreneurship	0.242	0.247	0.111	2.168	0.001
Environmental Initiatives -> Development of Social Entrepreneurship	0.448	0.443	0.115	4.384	0.003
Farmers' Quality of Life -> Development of Social Entrepreneurship	0.626	0.619	0.119	5.252	0.000

Economic sustainability has a positive and statistically significant relationship with the development of social entrepreneurship ($p < 0.05$). Environmental initiatives also have a strong positive and statistically significant relationship with the development of social entrepreneurship ($p < 0.05$). Additionally, farmers' quality of life is strongly and significantly related to the development of social entrepreneurship ($p < 0.001$). These findings suggest that economic sustainability, environmental initiatives, and farmers' quality of life play important roles in fostering the growth of social entrepreneurship.

DISCUSSION

Social Entrepreneurship and Economic Sustainability

Economic Sustainability and Social Entrepreneurship Development have a statistically significant positive link (Path Coefficient = 0.242; p -value = 0.001). The findings imply that there is a favorable correlation between the development of social entrepreneurship and the enhancement of economic sustainability in the agricultural sector of West Java. This study is consistent with earlier research in those policies and interventions that seek to increase market accessibility, economic stability, and financial

assistance for farmers can help to foster social entrepreneurial endeavors [25][26][8].

Environmental Proposals and Social Enterprise

Environmental Initiatives and Social Entrepreneurship Development have a strong positive link (Path Coefficient = 0.448) that is statistically significant (p-value = 0.003). In order to promote social entrepreneurship in the agricultural sector, environmentally friendly techniques and sustainable agriculture are essential [27] [28]. These programs foster an atmosphere that is conducive to the growth and viability of social entrepreneurship [29]. Social entrepreneurs can help solve issues with climate change, social injustice, and economic development by tackling environmental issues and advancing sustainable development [30]. The study's conclusions emphasized the beneficial effects of green practices on consumer citizenship and green satisfaction in the hospitality sector [31]. This highlights how crucial it is for businesses to implement green practices in order to boost customer satisfaction and encourage ethical consumer behavior.

The Standard of Living of Farmers and Social Entrepreneurship

Farmers' Quality of Life and Social Entrepreneurship Development have a strong positive link (Path Coefficient = 0.626) that is highly statistically significant (p-value = 0.000). Enhancing farmers' quality of life—which includes things like health, education, and social support—has been proven to be highly correlated with an increased chance of social entrepreneurship ventures [32]. This demonstrates the comprehensive character of social entrepreneurship, in which creative and socially conscious endeavors are largely motivated by the well-being of farmers. In order to solve urgent social and environmental issues, social entrepreneurship has attracted a lot of attention lately [33]. It is well known that social entrepreneurship can spur change by utilizing creative business strategies that benefit society [34]. Furthermore, the concept of rural entrepreneurship has been reframed as

engagement with contexts; the business, academic, and spatial layers of an individual's context are all integrated into the engagement of entrepreneurs in rural areas [35]. Therefore, by creating an atmosphere that is favorable for entrepreneurial activity and encouraging cooperation, networking, and a dedication to social and environmental values, the higher standard of living for farmers can aid in the success of social entrepreneurship efforts [36].

Practical Implications

1. An Integrated Policy Method

An integrated policy framework that concurrently addresses environmental objectives, farmer welfare, and economic sustainability should be taken into consideration by policymakers.

2. Funding Assistance for Social Entrepreneurship

The growth and sustainability of socially entrepreneurial agricultural companies can be improved by establishing financial channels to assist them.

3. Developing Capabilities for Sustainable Practices

To achieve successful implementation, initiatives that support sustainable farming practices should be supported by programs that increase farmers' capacity.

4. Social Support and Community Involvement

Enhancing social support networks and community involvement can foster an atmosphere that is favorable to innovative entrepreneurship.

Limitations and Future Research

This study has limitations even if it offers insightful information. It's possible that the 200 farmers in the sample do not adequately represent the variety of West Java's agricultural environment. By enlarging the sample size and introducing longitudinal studies to monitor changes over time, future study could broaden the scope.

Furthermore, the study's emphasis on quantitative data limited the depth of knowledge that can be obtained through qualitative methods. In the future, a mixed methods approach combining focus groups

and qualitative interviews with quantitative surveys could be used to provide a more thorough understanding of the experiences of social entrepreneurs and farmers.

5. CONCLUSION

In summary, this study clarifies important variables affecting social entrepreneurship in the agricultural environment of West Java. The complex aspect of sustainable agricultural development is highlighted by the beneficial links that have been created between Economic Sustainability, Environmental Initiatives, Farmers' Quality of Life, and the Development of Social Entrepreneurship.

These findings should be taken into account by practitioners and policymakers when creating interventions to support a resilient and socially conscious agriculture sector. The findings highlight the necessity of policies that combine environmental protection, economic stability, and raising farmers' standard of living. The emergence and sustainability of social entrepreneurial activities can be promoted by a combination of financial support, community engagement, and capacity-building programs. Even though the study offers insightful information, larger-scale investigations of these dynamics using mixed-methods approaches are necessary for a more thorough understanding in the future.

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