

DEVELOPMENT STRATEGY OF CIRCULAR EDU-TOURISM OF PALAYANGAN INTEGRATED AGRICULTURAL ECONOMY, SALEM VILLAGE, SALEM DISTRICT, BREBES REGENCY

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Abstract

This research aims to formulate the right strategy for developing integrated agricultural economic educational tourism in Palayangan, Salem Village, Salem District, and Brebes Regency. This research approach is descriptive qualitative. The location of this research is Salem Village, Salem District, Brebes Regency. The informants in this study were BUMDes Bina Usaha, Salem Village Government, Sumber Makmur Waste Processing Group, Mina Lestari Fishery Group, Combined Farmers and Livestock Groups (GAPOKTAN), and the Salem Village community which were determined by snowball sampling. Data processing methods use data reduction methods, data descriptions and categories, data presentation methods in the form of narrative text and matrices, data quality tests are carried out using source triangulation, and analysis methods using SWOT analysis. The results showed that Palayangan Eduwisata is an eduwisata that presents attractions on how to manage waste starting from the household level, processing organic and inorganic waste in the waste hangar, to the utilization of organic waste products to develop agriculture and fisheries located on a 2 hectares land which is Salem Village treasury land located in the Palayangan area of Salem Village, Salem District.

Keywords: Integrated Agricultural Educational Tourism; SWOT Analysis; Waste Management-Based Tourism; Salem Village Development Strategy

INTRODUCTION

Salem Village is located in the Salem Sub-district, Brebes Regency. Salem Village has a chronic waste problem. The village's waste comes from 3,430 families of Salem residents, the Salem Village Market, and the neighboring Bentar Village. The waste is disposed of at the Salem Village Landfill, which is located on 2 hectares of village treasury land provided by the Salem Village Government. Initially, the garbage was only burned because there was no knowledge of waste management until the garbage hangar was also burned. This caused air pollution due to smoke and unpleasant odors coming from piles of decomposing garbage. In addition, if the problem is not addressed, the 2 hectares of land used for garbage disposal is in danger of being full of piles of garbage, unproductive, and causing many problems.

Fortunately, in this very poor condition, Salem Village was used as a location for PkM DRTPM activities through the Independent Waste Management Assisted Village Empowerment Program carried out by the UNSOED and Telkom University Lecturer Team. The PkM team has conducted socialization to the community about the benefits of proper waste management, taught the processing of organic waste into maggot, kasgot, and eco-enzymes, oversaw the construction of waste hangars, made waste bank applications, provided organic waste processing production assistance, taught business management and group management and drafted a village regulation on waste management. The Salem Village Government is very excited to make the 2 hectares hangar

location which is village treasury land and is located in the Palayangan area an object of Circular Economic Integrated Agriculture tourism. This is because the waste problem occurs a lot in Salem and surrounding areas but no one has received guidance like Salem Village.

The development of Palayangan Eduwisata in Salem Village will involve large resources. Therefore, it is necessary to formulate a strategy for the development of Palayangan eduwisata in Salem Village. This strategy is prepared by considering the state of the external and internal environment, as well as strengths, weaknesses, opportunities, and threats in the development of eduwisata in Salem Village. This research aims to formulate the right strategy for developing circular edu-tourism of Palayangan integrated agricultural economy in Salem Village, Salem District, Brebes Regency. From the theoretical side, this research will provide benefits in the development of theory and science about the circular economy of integrated agriculture. From the practical side, this research will provide benefits for the government and the people of Salem Village who are struggling to develop an eduwisata circular integrated agricultural economy. The results of the strategy formulation developed can be the basis for the government and community of Salem Village in making policies and programs that are more efficient, sustainable, and in accordance with the principles of the circular economy to maximize the potential of agriculture and local resources.

Based on the Internal-External (IE) matrix analysis, Paragliding Integrated Agricultural Circular Economy Edu-tourism is in a strategic position in cell IV with an IFE value of 3.597 (strong) and EFE of 2.54 (medium). This position shows that Salem Village has great integrated internal strengths to be developed into a Paragliding Eduwisata object. The recommended strategy for this position is "Grow and Build", which emphasizes an aggressive yet measured approach to business development. In strategy formulation, the SWOT analysis suggests several approaches that can be taken. The SO strategy focuses on utilizing the high volume of organic waste to develop quality compost products, while the WO strategy emphasizes the importance of developing a standardization system and increasing human resource capacity. The ST and WT strategies highlight the importance of public awareness and the development of products that meet market needs, which are key to successful waste management. The implications of this analysis indicate that Eduwisata has significant potential to be developed into an Integrated Agricultural Economy Circular Palayangan Eduwisata in order to achieve sustainable growth. The implications of this analysis indicate that Eduwisata Paralayang has great potential to realize long-term sustainability, especially if the focus on strengthening internal operational systems and developing human resource capacity is carried out consistently.

LITERATURE REVIEW AND HYPOTHESIS FORMULATION

A. Circular Economy in Integrated Farming

In its implementation, the Circular Economy in integrated farming involves various aspects, ranging from agricultural waste management to the integration of complex farming systems. Agricultural waste, previously considered a problem, is now transformed into a valuable resource through processes such as composting, biogas production, and utilization of straw as animal feed or biomass fuel (Bhat et al., 2022). Integrated farming systems, such as crop-livestock integration and aquaponics, create closed nutrient cycles that improve resource use efficiency (Shen et al., 2020). Technology and innovation also play a crucial role in supporting Circular Economy implementation, by optimizing production and converting waste into value-added products (Klerkx et al., 2019). The implementation of this approach provides various benefits, including increased resource efficiency (Jurgilevich et al., 2016), reduced environmental impact Ghisellini et al (2016), and improved food security (Esposito et al., 2018). However, the implementation of Circular Economy in integrated farming also faces challenges, such as high initial investment requirements de Boer and van Ittersum, (2018), lack of knowledge and skills among farmers (Ingrao et al., 2018), and limited supporting policies (Jurgilevich et al., 2016). However, these challenges also present opportunities for innovation, research, and policy development that can drive wider adoption of the Circular Economy.

B. SWOT Analysis

SWOT analysis refers to the process of systematically identifying factors that play a role in developing company strategy. According to Rangkuti (2018), these factors include strengths (Strengths) and opportunities (Opportunities) that can be optimized, as well as weaknesses (Weaknesses) and threats (Threats) that need to be minimized. Nur'aini (2016) also explains that SWOT Analysis is a tool to identify the various factors that make up an organization and is used to systematically develop corporate strategies. In this analysis, identification, and evaluation of internal and external organizations are carried out to determine the strengths, weaknesses, opportunities, and threats that need to be considered in developing an effective business strategy. Gürel and Tat (2017) explain that SWOT analysis is a strategic tool used to evaluate the Strengths, Weaknesses, Opportunities, and Threats of an organization or project. They emphasize that Strengths and Weaknesses are internal factors that can be controlled by the organization. Opportunities and Threats are external factors that are outside the organization's control.

David and David (2017) describe the SWOT matrix as a tool for developing strategies based on a combination of internal and external factors. They outline four types of strategies:

1. SO (Strength-Opportunity) Strategy
2. WO (Weakness-Opportunity) Strategy
3. ST (Strength-Threat) Strategy
4. WT (Weakness-Threat) Strategy

Vlados and Chatzinikolaou (2019) proposed the integration of SWOT with Stra.Tech.Man analysis, which considers strategy, technology, and management aspects simultaneously for a more comprehensive analysis.

Table 1. Matrix IFE

Internal Factor	Weight	Rating	Score
<i>Strength</i>			
<i>Weaknesses</i>			
Total Score			
Score Difference			

David and David (2017) describe the EFE matrix as a tool for evaluating an organization's external factors. The process is similar to the IFE matrix:

Table 2. Matrix EFE

External Factor	Weight	Rating	Score
Opportunities			
Threats			
Total Score			
Score Difference			

Table 3. Matrix IE

		IFE		
		Strong 3,0 – 4,0	Medium 2,0 – 2,99	Weak 1,0 – 1,99
EFE	Strong 3,0 – 4,0	I	II	III
	Medium 2,0 – 2,99	IV	V	VI

Weak
1,0 –1,99

VII

VIII

IX

A total score of 4.0 indicates that the organization responds to opportunities and threats exceptionally, while a score of 1.0 indicates that the organization's strategy does not take advantage of opportunities or avoid external threats. After calculating the weight and rating of the questionnaires obtained in the IFE matrix and EFE matrix, the input stage produces the final score of the IFE matrix and EFE matrix. The IFE matrix will be the input for the x-axis of the IE matrix and the final score of the EFE matrix for the y-axis of the IE matrix so that the IE matrix can describe the position of the company which is divided into nine categories.

RESEARCH METHODS

1. Research approach: qualitative approach with case study method.
2. Research Location: Salem village, Salem sub-district
3. Research population and informants: all stakeholders of Palayangan Eduwisata in Salem Village, Salem District, starting from the village head, BUMDES management, community leaders, sub-district head, and development head at both village and sub-district levels.
4. The method of determining informants is determined by the snowball sampling method.
5. The data used are primary and secondary data
6. Data collection techniques
 - a. Literature Study
 - b. Secondary data collection
 - c. Primary data collection with interviews and FGDs
7. Data processing methods: using data reduction methods, data description, and data categorization. Data categorization is based on the comparative analysis method (Moleong, Lexy. 2001)
8. Data presentation method: in the form of narrative text and will be presented in the form of a matrix.
9. Data quality test: carried out using source triangulation and method triangulation (Moleong, Lexy. 2001)
10. To develop a strategy, a SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) was used. To develop the Palayangan Eduwisata development strategy in Salem village, the following steps were taken:
 1. Internal and External Environmental Analysis

Internal environment analysis uses the Internal Factor Evaluation (IFE) matrix, and external environment analysis uses the External Factor Evaluation (EFE) matrix.
 2. SWOT Analysis

The preparation of the Palayangan Eduwisata development strategy in Salem Village, Salem District uses a SWOT matrix as found in Table 4 (David, F. R, 2017).

Table 4. SWOT Matrix

STRENGTH (O)		WEAKNESS (W)
OPPORTUNITIES (O)	SO Strategy	WO Strategy
THREATS (T)	ST Strategy	WT Strategy

RESULTS AND DISCUSSION

1. Results of Internal Factor Analysis

The results of the internal analysis obtained 8 main factors of strengths and weaknesses of Paragliding Integrated Agricultural Circular Economy Eduwisata. These factors will be assessed by informants by giving a score in the range of 1 to 5, according to their level of importance or influence on the object being analyzed, resulting in an IFE matrix. Based on the results of the IFE (Internal Factor Evaluation) matrix analysis, Eduwisata Circular Economy Integrated Agriculture Paralayang shows a fairly strong internal position with a total score of 3,415. This is in line with Sutanto et. al. research (2021) which states that an IFE score above the average value of 2.5 indicates good organizational fundamentals for further development. Thus it can be concluded that Paralayang Integrated Agricultural Circular Economy Edu-tourism has strong fundamentals to be developed further.

In terms of strengths, Paralayang Integrated Agricultural Circular Economy Edutourism has four main advantages. The high volume of organic waste is the biggest strength with a rating of 4.83 and a weight of 0.14, showing great potential for the development of Paralayang Eduwisata as an Integrated Circular Agricultural Economy tourist attraction. Asteria & Heruman (2016) emphasized that the high volume of organic waste can be utilized for the development of integrated waste processing systems such as compost or biogas. The second strength is the availability of a large waste storage area (rating 4.121, weight 0.13), providing flexibility for facility development. The existence of BUMDes as the coordinator and manager (rating 3.874, weight 0.13) and policy and infrastructure support from the village government (rating 3.874, weight 0.12) complete the strong foundation of this Edutourism.

In terms of weaknesses, referring to Mahyudin's research (2018), there are four main challenges that need to be addressed. The absence of standardized processes (rating 3.72, weight 0.12) is the most significant weakness, indicating the urgency of developing a more structured operational system. Sulistiyorini et al. (2023) emphasized the importance of process standardization in sustainable waste management. High operational costs (rating 3.72, weight 0.12), limited number of workers (rating 3.12, weight 0.12), and complexity in waste sorting (rating 2.724, weight 0.12) are challenges that need to be addressed systematically.

The total strength score of 16.699, which is higher than the weakness score of 13.284, indicates a strong capital base for development. Rahman et al. (2020) in their research revealed that the not-too-large difference in scores indicates the need for a balanced strategy between utilizing strengths and improving weaknesses.

2. Results of External Factor Analysis

The results of the external analysis obtained 9 main factors of Opportunities and also Threats of Circular Eduwisata Integrated Agricultural Economy of Paragliding. These factors will be assessed by informants by giving a score in the range of 1 to 5, according to the level of importance or influence on the object being analyzed, resulting in an EFE matrix. Based on the results of the EFE (External Factor Evaluation) matrix analysis, the Integrated Agricultural Circular Economy in Salem Village obtained a total score of 2.54, indicating a fairly good ability to respond to external opportunities and threats. This is in line with the research of Gunawan & Permadi (2019) which states that an EFE score above 2.5 indicates that Circular Edu-tourism of the Paralayang Integrated Agricultural Economy is able to take advantage of opportunities and overcome threats effectively.

In terms of opportunities, Salem Village has five main supporting factors. The potential of Salem Village and its surroundings is the biggest opportunity with a rating of 3.795 and a weight of 0.11, showing promising development prospects. Asteria & Heruman (2020) confirmed that good regional potential can encourage the sustainability of waste management programs. The potential for utilization (rating 3.465, weight 0.11) and potential economic benefits (rating 3.3, weight 0.10) strengthen the development prospects. Increased demand for recycled products (rating 2.96, weight

0.10) and cooperation between institutions (rating 2.82, weight 0.10) complement the opportunities that can be optimized.

In terms of threats, referring to Mahyudin's research (2018), there are four external challenges that need to be anticipated. The absence of a market for processed products (rating 3.6, weight 0.12) is the most significant threat, indicating the importance of developing a marketing strategy. Community habits (rating 3.54, weight 0.12), the low role of the community (rating 3.18, weight 0.12), and the absence of high awareness from the community (rating 3.48, weight 0.12) are challenges that require a comprehensive approach to community empowerment.

Based on the Internal-External (IE) matrix analysis, Salem Village shows a strategic position in cell IV with an IFE value of 3.415 (strong) and EFE of 2.54 (moderate). According to David & David (2017), this position indicates that the development of an integrated Agricultural Circular Economy Edu-tourism in Salem Village has established internal strengths but faces moderate external challenges. Internal strengths are reflected in Salem Village's high volume of organic waste, the availability of a large area of land in Technopark Paralayang, and strong support from BUMDes and the village government.

Table 4. IE Result

		IFE		
		Strong 3,0 – 4,0	Medium 2,0 – 2,99	Weak 1,0 – 1,99
EFE	Strong 3,0 – 4,0	I	II	III
	Medium 2,0 - 2,99	IV(Salem Village)	V	VI
	Weak 1,0 –1,99	VII	VIII	IX

Referring to David & David's (2017) research, the position of cell IV leads to a "Grow and Build" strategy that emphasizes an aggressive but measurable approach. In line with the findings of Budiwidjojo Putra (2023), an intensive strategy can be implemented through gradual market penetration to villages around Salem other than Bentar Village in one sub-district, development of innovative recycled products such as dried maggot and maggot pellets and ready-to-use kasgot fertilizer, as well as search and development of new markets either through channels or online markets. Meanwhile, Gunawan & Permadi (2019). highlighted the importance of integrative strategies through building a strong distribution network and strengthening partnerships with stakeholders such as those that have been carried out with DLH and Bappedalitbang of Brebes Regency.

In its implementation, Asteria & Heruman (2020) recommended a focus on strengthening internal operational systems, especially on handling operational costs through Salem Village subsidies to temporarily cover temporary operations, maintenance of waste shredding machines, and sustainable human resource capacity development with training and socialization. This is supported by Mahyudin's research (2018) which emphasizes the urgency of increasing community involvement through structured educational programs. Asteria & Heruman (2020) added that gradual and measurable market development is the key to successful strategy implementation in the cell IV position. Taking into account the strong internal conditions and moderate external challenges, Paralayang Integrated Agricultural Circular Economy Eduwisata has significant potential to achieve sustainable growth through the implementation of appropriate and measurable strategies.

3. Strategy Formulation

Based on the SWOT matrix analysis for Paragliding Integrated Agricultural Circular Economy Eduwisata, there are various strategies that can be implemented to optimize waste management.

- a. The SO strategy focuses on utilizing the high volume of organic waste and large land area to develop maggot products that emphasize the importance of optimizing the processing of organic waste into economically valuable products (Damanhuri & Padmi, 2010). Some SO strategies that can be applied are Making Salem Village, Brebes as an Integrated Circular Economy-based waste processing that can serve Salem Village and its surroundings. This is in line with the concept of waste management by Kristanto et al. (2017) on optimizing landfill land for integrated waste processing.

The 2-hectare land is used as an Integrated Agricultural Circular Economic Education Tour with the name "Paralayanan Tourism" in line with the research of Widodo et al. (2021) on the integration of educational tourism with waste management. Become a maggot and Kasgot production center to support sustainable organic waste management. Integrating the maggot production system with land availability to create a pilot model for integrated organic waste management, adapting the model developed by Suciati and Faruq (2017).

Optimizing the role of BUMDes as a coordinator to manage inter-institutional cooperation in developing a circular economy-based waste management system. This strategy supports Sutrisno's (2019) findings on the strategic role of BUMDes in village economic development. Combining the high volume of organic waste with the potential production of maggot and casgot creates added economic value. This strategy adopts the concept promoted by Fahmi et al. (2018) on optimizing organic waste into maggot-based animal feed. Optimizing cooperation with Bappedalitbang and the Brebes District Environmental Office for processing organic waste into fertilizer and maggot feed, utilizing the high volume of organic waste (Hermawan et al., 2019).

- b. The WO strategy emphasizes developing a standardization system and increasing human resource capacity, referring to Kristina's (2014) findings on the importance of process standardization in sustainable waste management. Overcoming high operational costs (W1) by optimizing the utilization of processed waste products (O2) through diversification of high economic value products. This strategy is in line with the research of Wijaya et al. (2021) on optimizing the economic value of waste processing.

Overcoming labor limitations (W2) through developing cooperation between institutions (O5) for apprenticeship and training programs. Refers to the collaboration model developed by Sutrisno and Prasetya (2020). Developing an inorganic waste processing system (W3) to meet the increasing demand for recycled products (O4), by adopting appropriate technology as proposed by Hermawan et al. (2019). Overcoming the complexity of waste sorting (W4) by establishing a partnership system with the Salem Village community and its surroundings (O1) for waste sorting from the source, adapting the model developed by Rahmawati (2022).

Optimizing potential economic benefits (O3) to cover high operational costs (W1) through the development of high-value-added business units, according to the study by Nugroho et al. (2020). Utilizing inter-institutional cooperation (O5) for the development of

waste sorting automation technology (W4), adopting the innovation proposed by Widodo and Santoso (2021).

- c. In the context of ST and WT strategies, the focus is on increasing public awareness and developing products that meet market needs. This is in line with Kristina's (2014) research which revealed that the success of waste management is highly dependent on community participation and product suitability to market demand. The following is the ST Strategy that can be implemented, Utilizing BUMDes as the coordinator (S2) to develop community education and mentoring programs to overcome the low role of the community (T1). This strategy adopts the community empowerment model developed by Sulistiyorini et al. (2021).

Optimizing village government policy support (S4) to create a village regulation on household waste segregation (T2), referring to Hermawan and Rohmah's (2019) study on the effectiveness of waste management regulations. Utilizing the high volume of organic waste (S3) for the development of products with economic value and creating new markets (T3), in line with the research of Fahmi et al. (2020) on product diversification from organic waste. Using adequate land area (S1) to build an integrated waste processing facility that is easily accessible as an alternative to littering (T4), adapting the model developed by Widodo et al. (2022). Optimizing the role of BUMDes (S2) in developing a marketing system for processed waste products (T3) through partnerships with the private sector, referring to the business model proposed by Nugroho and Prasetya (2020). Utilizing policy support and village infrastructure (S4) to create an incentive system for communities that sort waste (T2), as recommended in the study by Rahmawati et al. (2021).

The WT strategy that can be carried out is to develop a partnership system with the private sector to overcome high operational costs (W1) and create a market for processed products (T3). This strategy is in line with Nugroho and Santoso's (2021) research on partnership models in developing recycled product markets.

Forming RT/RW-based waste management groups to overcome labor limitations (W2) and increase the role of the community (T1), refers to the empowerment model developed by Rahmawati et al. (2020). Developing an integrated waste bank system to overcome the complexity of sorting (W4) and low community participation in waste sorting (T2), adapting the model proposed by Widodo and Pratama (2022). Implement appropriate technology for inorganic waste processing (W3) that is oriented towards market needs (T3), as recommended in the study by Hermawan et al. (2019). Develop a performance-based incentive program to optimize limited manpower (W2) and encourage community participation in waste segregation (T2), referring to the study of Sutrisno and Rahman (2021).

CONCLUSION

Based on the Internal-External (IE) matrix analysis, Paragliding Integrated Agricultural Circular Economy Edu-tourism is in a strategic position in cell IV with an IFE value of 3.597 (strong) and EFE of 2.54 (moderate). This position shows that Salem Village has great integrated internal strengths to be developed into a Paragliding Eduwisata object, such as a high volume of organic waste and support from BUMDes and the village government, but also faces moderate external challenges. This is in line with the views of David & David (2017), which state that organizations, in this case the Salem Village Government, which have this position must take advantage of internal strengths to overcome external challenges.

The recommended strategy for this position is “Grow and Build”, which emphasizes an aggressive yet measured approach to business development. Research by Wheelen and Hunger (2018) supports this approach by emphasizing the importance of market penetration and innovative product development. In this context, an intensive strategy can be carried out through gradual market penetration to surrounding villages and the development of innovative recycled products, as proposed by Putra (2023).

In strategy formulation, the SWOT analysis suggests several approaches that can be taken. The SO strategy focuses on utilizing the high volume of organic waste to develop quality compost products, while the WO strategy emphasizes the importance of developing a standardization system and increasing human resource capacity. The ST and WT strategies highlight the importance of public awareness and the development of products that meet market needs, which are key to successful waste management.

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