AGRISOCIONOMICS
Jurnal Sosial Ekonomi dan Kebijakan Pertanian
ISSN 2580-0566; E-ISSN 2621-9778
http://ejournal2.undip.ac.id/index.php/agrisocionomics
Vol 9 (1): 179-193, March 2025

FEASIBILITY STUDY OF AGROTOURISM IN SIANTAN HILIR PEAT VILLAGE AGROTOURISM

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Submitted 17 March 2024; Approved 09 September 2024

ABSTRACT

The development of agrotourism in Indonesia often faces management issues. However, this can be addressed by conducting a feasibility analysis. This study aims to analyze the feasibility of agro-tourism business in Siantan Hilir Peat Village Agrotourism from non-financial and financial aspects. Such a study, which examines the feasibility of agro-tourism business from both financial and non-financial perspectives in a peatland area, has not been conducted before. The non-financial feasibility aspects examined include technical, managerial, market, and social aspects. Meanwhile, the financial aspects consist of NPV, IRR, Net B/C, Payback Period, and Sensitivity Analysis. This research employed data triangulation method and financial feasibility analysis formulas. The non-financial feasibility analysis in Siantan Hilir Peat Village Agrotourism reveals that the area is suitable for agro-tourism due to its fulfillment of all technical, managerial, market, and social criteria. Furthermore, based on the financial analysis, it is evident that the agro-tourism business in Siantan Hilir Peat Village Agrotourism is viable and can be further developed. This is evidenced by the calculation shows it meets all the investment criteria. Therefore, the recommendation is to continue the development and operation of agrotourism in Siantan Hilir Peat Village Agrotourism while considering the risk management, especially in handling income fluctuations, and the focus should be on providing good services and developing products to maintain visitor interest.

Keywords: *agrotourism, financial, non-financial, peat, Siantan Hilir, village*

BACKGROUND

Indonesia has significant potential for agrotourism due to its diverse agricultural resources, rich cultural heritage, and scenic landscapes. With over 55% of its population involved in agriculture and 45 million hectares of agricultural land, Indonesia provides ample opportunities for agrotourism development. Agricultural tourism in Indonesia is one of the sectors driving economic growth that is highly sought after by visitors, both domestic and international. Agricultural tourism often takes place in areas with fresh air and attractive natural scenery, providing opportunities for tourists to enjoy the beauty of nature while learning about the processing of agricultural products, both traditionally and modernly (Bwana et al., 2015).

Puspito et al., (2016) stated that the development of agricultural tourism in Indonesia faces several challenges in its management process. This is reflected in the still relatively unorganized management, such as the lack of readiness in terms of the community's ability as tour guides, the number of agrotourism farmers switching professions, and the lack of coordination with the

ISSN 2580-0566; E-ISSN 2621-9778
http://ejournal2.undip.ac.id/index.php/agrisocionomics
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government regarding efforts for the development and construction of tourism areas. Other issues that occur in the tourism sector include the quality of human resources in the local government, minimal publicity, and the lack of investment from the private sector, which remains a constraint (Nugroho, 2020). This leads to inefficient management. Effective management is essential to offer the necessary facilities and services for the growing number of tourists.

With over 16 million international tourists visiting annually, Indonesia faces the challenge of maintaining and expanding its tourism infrastructure, including transportation, accommodations, and public amenities. Effective management ensures that resources are allocated efficiently, attractions are preserved and maintained, and services meet high standards, enhancing the overall tourist experience. Moreover, it supports sustainable tourism practices, preserving Indonesia's cultural and natural heritage while boosting the local economy and accommodating future growth. Based on previous research, good tourism management has significant impacts, including increasing income for surrounding communities and assisting in village economies (Aryani et al., 2017). The positive impact of tourism development is that community life becomes heterogeneous (Hermawan, 2016).

Saryani (2021) stated in tourism activities, it can actually create and bring together new cultures for the community itself towards change. Changes that often occur in relation to socio-cultural aspects are behaviors, values, and attitudes influenced by the situations and conditions that arise For instance, a rural village that traditionally relied on agriculture might start to embrace hospitality and service-oriented activities due to an influx of tourists. The villagers might learn new languages to communicate better with visitors, adopt new culinary practices to cater to diverse tastes, and celebrate international festivals introduced by tourists.

Siantan Hilir is one of the villages in North Pontianak sub-district that has 1,000 hectares of peatland. In 2024, the local government of West Kalimantan designated it as a productive area. In addition to being designated for agriculture and plantation areas, this peat protection zone also serves as a center for the implementation of food diversification programs. Areas designated as peatland restoration areas have the potential to be developed as ecotourism destinations. Here, ecotourism activities will provide an overview of peatlands and various ways of their use and the environmental impacts they bring, including efforts in peatland restoration that prioritize the 3R (Rewetting, Revegetation, Restoration and Ecosystem Function) principle. According to Jaya et al., (2022), ecotourism locations can avoid the risk of damage, especially forest and land fires, and communities will strive to preserve the sustainability of the area. Consequently, ecotourism locations can be safe from issues like forest and land fires, and the community will strive to protect those areas.

The Siantan Hilir sub-district in East Pontianak is a peatland region that exhibits both urban and rural characteristics in fiscal, social, economic, and cultural aspects. It has agricultural land, plantations, livestock activities, fisheries, and well-preserved peatland environments. The RW 33 Business Entity has initiated the development of an agrotourism area named Siantan Hilir Peat Village Agrotourism. Peatland agrotourism is still rare in West Kalimantan and holds great potential for development. The agrotourism objects in this peatland area also represent the novelty aspect of this research.

Considering the growing interest in agrotourism among the public, the development of agrotourism is essential to attract tourists. The development can be based on a feasibility analysis of the business. The novelty of this research lies in its unique study location, which is situated in

ISSN 2580-0566; E-ISSN 2621-9778
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an urban environment with productive peatland but possesses distinct environmental, social, economic, and cultural characteristics typical of rural areas.The feasibility analysis for the agricultural business in Siantan Hilir Peat Village Agrotourism is conducted to assess the business conditions related to its potential for success, considering technical, market, management, social aspects, as well as the capital requirements and financial potential. The financial feasibility analysis is a tool to compare costs incurred and benefits gained from a project, determining whether the project is viable for development within a specific time frame. Thus, the aim of this research are analyzing the feasibility of the Agrotourism Business in Kampung Gambut Siantan Hilir from financial and non-financial aspects.

RESEARCH METHODS

The research was conducted at the Siantan Hilir Peat Village Agrotourism in the Siantan Hilir Subdistrict, East Pontianak District, Pontianak City from March 30 to May 31, 2023. This location was chosen because it is initiated as an agrotourism site on peatland with the largest area of productive peatland in West Kalimantan. The research samples were selected using purposive sampling, consisting of the management team, namely the BUMRW 33, which comprised 15 individuals. Additionally, there were also the village head, sub-district head, and residents in RW 33 who were involved as daily workers. The approach used in this study is a combination of qualitative and quantitative methods. The data used in this research consists of primary and secondary data. To achieve the objectives of the non financial feasibility study in Siantan Hilir Peat Village Agrotourism, the data collection techniques are interviews, questionnaires, and observations.

In this research process, the researcher follows a series of structured steps. First, the researcher prepares relevant interview questions, selects appropriate respondents, and conducts interviews while noting or recording their responses. Next, the researcher designs easy-to-understand questionnaires, distributes them to selected respondents, collects the completed questionnaires, and analyzes the obtained data. In the observation step, the researcher plans what will be observed, then carries out direct observations in the field, and records relevant findings. Finally, the researcher gathers and analyzes various documents related to the agrotourism of Kampung Gambut Siantan Hilir, such as reports, archives, and other documents to obtain additional information supporting the research results.

The research utilizes descriptive qualitative methods to assess the feasibility of the project from non-financial aspects. The non-financial feasibility analysis is carried out descriptively, examining four aspects: (1) technical, (2) management, (3) market, and (4) social. Quantitative analysis is used to assess the financial feasibility of the project. Descriptive analysis is used to present the costs, revenues, and financial feasibility analysis, as well as sensitivity analysis in Siantan Hilir Peat Village Agrotourism. The method used for financial analysis in this project is the investment appraisal criteria. The purpose is to evaluate whether the project or business is financially viable. This method includes:

1. Net Present Value (NPV): NPV is the present value of cash inflows minus the present value of cash outflows over time (Osborne, 2010).

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$$\text{NPV} = \sum_{t=0}^{n} \frac{\text{Bt} - \text{Ct}}{(1+i)^t}$$

Information:
Bt : Benefit in year t
Ct : Cost in year t
t : Time period or year t
i : Current interest rate
n : Length of the time period

Criteria:
If NPV > 0, then the business is feasible to implement.
If NPV < 0, then the business is not feasible to implement.
If NPV = 0, then the business will not result in profit or loss for the company.

2. Internal Rate of Return (IRR): IRR is a technique used in investment evaluation to assess the profitability of investment projects (Huang, 2023).

$$\text{IRR} = i_1 + \frac{NPV_1}{NPV_1 - NPV_2}(i_2 - i_1)$$

Information:
NPV1 : NPV with positive value
NPV2 : NPV with negative value
i1 : Financing interest rate when NPV is positive
i2 : Financing interest rate when NPV is negative

Criteria:
If IRR > Interest rate, then the project is feasible to implement
If IRR < Interest rate, then the project is not feasible to implement

3. Net Benefit-Cost Ratio (Net B/C): Net B/C is a method used to evaluate a project by comparing the present value of all benefits/revenues (Pramono in Sururi & Agustapraja, 2020).

$$\text{NET B/C} = \frac{\sum_{t=0}^{n} \frac{Bt - Ct}{(1+i)^t}}{\sum_{t=0}^{n} \frac{Bt - Ct}{(1+i)^t}}$$

Information:
Bt : Benefit in year t
Ct : Cost in year t
t : Time period or year t
I : Current interest rate
n : Duration of time period

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Criteria:
If Net B/C > 1 then the project is feasible to implement
If Net B/C < 1 then the project is considered not feasible to implement
If Net B/C = 1 then the project is said to be at break-even point

4. Payback Period (PP): The Payback Period (PP) is a specific time period indicating when the cumulative cash inflows equal the amount of investment in present value form (Kaswara & Nuswantara, 2022).

$$\text{PP} = \text{Tp} - 1 + \sum_{t=0}^{n} Ii - \sum_{t=0}^{n} Biep - 1) \,/\, Bp$$

Information:
PP : Payback Period
Tp-I : Year prior to PP
Ii : Discounted investment amount
Biep-1 : Discounted benefit amount before the payback Period
Bp : Amount of benefits at the

Criteria:
If PP < economic life of the project, feasible
If PP > economic life of the project, not feasible

RESULT AND DISCUSSION

General Overview of the Research Location

Siantan Hilir is a sub-district located in Pontianak Utara, Pontianak City, West Kalimantan. Pontianak Utara is part of Pontianak City, the capital of West Kalimantan, which is well-known for its location right on the equator. Siantan Hilir is situated in the northern part of Pontianak City, bordered by the Kapuas River to the north and west, and by other sub-districts in Pontianak Utara to the south and east. Siantan Hilir has good access to the city center and other areas in Pontianak. The infrastructure in this area is continuously developing with the construction of roads, public facilities, and health services. Along the banks of the Kapuas River, there are various facilities such as docks and residences that utilize the river as a primary transportation route.

This sub-district is densely populated with diverse economic activities. Many residents work in the trade and service sectors, with a smaller portion involved in agriculture and fishing. The Kapuas River, which flows through the area, serves as an important source of livelihood for the local population, particularly in fishing and water transportation. The community in Siantan Hilir is culturally diverse, with a predominance of Malay, Dayak, and Chinese ethnic groups. This diversity creates a unique harmony in the daily life of the local community, reflected in cultural celebrations, religious practices, and culinary traditions. Most of the land in Siantan Hilir, as in many other areas of Pontianak, consists of peat soil. Peat soil is a type of organic soil formed from the accumulation of poorly decomposed organic materials, such as leaves, twigs, and tree trunks. This soil tends to be acidic, with a low pH, and is rich in organic matter. Due to the unique characteristics of the soil, land

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use in Siantan Hilir is often adapted to these conditions. Many areas are utilized for residential purposes or traditional agriculture with systems that are adaptive to peat conditions, such as fish ponds or crops that tolerate acidic conditions.

For this reason, to preserve and utilize the unique potential of the peat soil in Siantan Hilir, a peatland agro-tourism site has been established. This agro-tourism site not only serves as an educational tourist destination but also as an effort to conserve the peat soil to ensure its sustainability. Through this agro-tourism, visitors can learn about the importance of maintaining the peatland ecosystem, environmentally-friendly farming techniques, and sustainable ways to utilize peatland. Thus, this agro-tourism plays a crucial role in maintaining ecological balance, raising public awareness, and providing economic benefits to the local population without damaging the existing peatland conditions. Siantan Hilir Peat Village Agrotourism began as a community aspiration for prosperity in the vicinity of RW (Rukun Warga), which later evolved into a movement named Badan Usaha Milik RW involving various stakeholders. Siantan Hilir Peat Village Agrotourism was established on January 15, 2022, by Badan Usaha Milik RW (BUMRW) under the leadership of Mr. Iwan as the head of RW. This agrotourism village is located in Siantan Hilir Village, North Pontianak Sub-district, Pontianak City.

Non-Financial Feasibility

Technical Aspects

The technical evaluation of Siantan Hilir Peat Village Agrotourism involves several critical aspects, including site selection, spatial layout, resource availability, and production flow, as highlighted by Bukhori and Nurmalina (2021). Each of these elements plays a pivotal role in determining the feasibility and potential success of the agrotourism initiative. The location of Siantan Hilir Peat Village Agrotourism has been strategically chosen to ensure accessibility for potential visitors from key regions, including the city center of Pontianak, Mempawah Regency, Kubu Raya, and even international tourists. This strategic positioning is crucial as it directly influences visitor traffic and convenience, thereby enhancing the site's overall attractiveness. Enhanced accessibility is positively correlated with higher visitor numbers, which in turn can drive favorable economic outcomes for the agrotourism project.

The presence of essential infrastructure, such as electricity, clean water, and telecommunication networks, is another significant factor contributing to the project's feasibility. The site benefits from a reliable electricity supply provided by the national electricity company (PLN), which is essential for both operational needs and visitor comfort. Additionally, clean water is sourced through peat water purification processes, a critical consideration given the unique peatland environment. The availability of a robust telecommunication network further enhances connectivity, which is vital for both operational management and marketing efforts. These infrastructure components are fundamental to ensuring the smooth operation of agrotourism activities and enhancing the overall visitor experience, thereby increasing the project's feasibility and appeal.

Resource availability within Siantan Hilir Peat Village Agrotourism is promising, as evidenced by data from the local neighborhood (RW 33). The total area encompasses 1,039,274 m², of which 199,116.5 m² is managed land, while 840,157.5 m² remains undeveloped, indicating that approximately 80.93% of the land is available for further development and optimization within the agrotourism framework. Although local water utility (PDAM) services are available, the majority of residents prefer using peat water through purification installations due to its cost-effectiveness and

ISSN 2580-0566; E-ISSN 2621-9778
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reliability. This abundance of land and resource availability underscores the potential for expansion and diversification of agrotourism activities, reinforcing the project's viability.

Siantan Hilir Peat Village Agrotourism is well-equipped with the necessary agricultural machinery, garden tools, recreational facilities, and essential infrastructure, including access roads, electricity, and clean water. The availability of these resources is crucial for the effective implementation and operation of agrotourism activities. Adequate equipment and infrastructure not only support efficient agricultural production but also enhance the visitor experience, contributing significantly to the project's success. The zoning layout within Siantan Hilir Peat Village Agrotourism has been meticulously planned to accommodate diverse activities such as farming, gardening, livestock rearing, recreational facilities, and customer service areas. This zoning, clearly delineated in the master plan, facilitates effective site organization and management. By strategically dividing the area into specific zones, the project ensures that each activity can be conducted efficiently without interference from others. This well-considered layout is crucial for maintaining seamless operations and providing a satisfactory experience for visitors, thereby bolstering the project's feasibility.

The service flow for booking agrotourism activities is structured to ensure a seamless customer experience. The process encompasses information provision and offers, followed by reservation or booking, confirmation, payment, preparation, and additional information provided upon the visitor's arrival. This structured approach to service delivery enhances customer satisfaction and operational efficiency. Similarly, the agricultural production flow follows a detailed process from preparation to marketing and distribution, ensuring that all activities are conducted systematically and efficiently.

Research by Bukhori and Nurmalina (2021) on agrotourism in Rembang Regency underscores the feasibility of agrotourism projects, emphasizing technical aspects such as site selection, resource availability, layout, production flow, and services. The feasibility of Siantan Hilir Peat Village Agrotourism is corroborated by these technical factors, suggesting that the project is founded on a solid framework for success. The integration of strategic site selection, abundant resources, well-planned layout, and efficient production and service flows positions Siantan Hilir Peat Village Agrotourism as a viable and promising venture in the agrotourism industry.

Management Aspects

The management of Siantan Hilir Peat Village Agrotourism encompasses comprehensive planning, organizing, directing, and controlling resources, aligning with the management functions outlined by George R. Terry (Syahputra & Aslami, 2023). This holistic approach ensures that all aspects of the business are effectively managed, contributing to its overall feasibility and success. The planning phase involves analyzing potential resources, including human capital and tourist inflows. In RW 33 Siantan Hilir, 808 inhabitants were recorded in 2022, with 59.03% of these being productive individuals. This demographic represents a strong potential customer base, as they are likely to engage with local agrotourism offerings. Additionally, West Kalimantan saw 2,307,418 domestic tourist visits and 3,259 international tourist visits, primarily from Malaysia and China, in 2022. These figures highlight a substantial tourist market that could be attracted to Siantan Hilir Peat Village Agrotourism, particularly given its strategic location near international access points.

The effect of careful planning is reflected in the project’s ability to capitalize on these demographic and tourist trends. By understanding the local and regional tourist markets, Siantan Hilir Peat Village Agrotourism can tailor its services to meet demand, thus enhancing its appeal and

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increasing visitor numbers. The proximity to key transportation hubs and international borders further supports this potential, making the site accessible to a broad audience. The organizational aspect includes competitor analysis, revealing that Siantan Hilir Peat Village Agrotourism has distinct advantages. These include its proximity to the city center, competitive ticket pricing, the inclusion of souvenirs, and the provision of homestay services. These factors differentiate it from other agrotourism sites, making it more attractive to both local and international tourists.

The organizational structure is key to effective management. The management team at Siantan Hilir Peat Village Agrotourism, known as BUMRW 33, is responsible for recruiting laborers based on skills and prioritizing local residents. The organizational structure is clearly defined, with roles including a chairman, secretary, treasurer, IT expert team, finance expert team, and agribusiness expert team. Daily operations are supported by guides, administrative staff, security guards, and cleaning staff. The effect of a well-organized management structure is the smooth operation and coordination of agrotourism activities. By clearly defining roles and responsibilities, the project ensures that tasks are completed efficiently and effectively, contributing to the overall success of the venture. The emphasis on local labor not only supports the community but also enhances the project's sustainability.

In terms of direction, the management team offers services that align with market preferences, particularly the growing demand for rural-based tourism among city dwellers. This targeted approach ensures that the services provided are attractive to the intended audience, leading to higher visitor satisfaction and repeat business. Control mechanisms are in place to monitor and evaluate the performance of Siantan Hilir Peat Village Agrotourism. These include regular weekly and monthly evaluation meetings, financial audits, and the use of online visitor feedback forms. These tools help the management team measure key performance indicators such as revenue, costs, and visitor satisfaction.

The process of direction and control is essential for maintaining the quality of services and ensuring that the project meets its financial and operational goals. By continuously monitoring performance, the management team can make informed decisions and adjustments, further enhancing the feasibility of the project. The feasibility of Siantan Hilir Peat Village Agrotourism is supported by its thorough management approach. The project successfully integrates planning, organizing, directing, and controlling functions, ensuring that all aspects of the business are managed effectively. The careful analysis of market trends, competitor advantages, and resource allocation, combined with a clear organizational structure and strong control mechanisms, positions the project for success. The project is considered feasible because it meets all critical management criteria, demonstrating the potential for sustainable operations, economic viability, and positive social impact. The combination of strategic planning, effective organization, targeted direction, and robust control processes ensures that Siantan Hilir Peat Village Agrotourism is well-positioned to thrive in the competitive agrotourism industry.

Market Aspects

The market aspect evaluates the potential and consumer needs for agrotourism, encompassing the marketing mix 7P framework as defined by Philip Kotler (Claudya, 2019). This framework includes product, price, place, promotion, people, physical evidence, and process. Siantan Hilir Peat Village Agrotourism offers a diverse range of services, including agricultural and livestock education, peatland conservation, pineapple processing workshops, culinary tourism, photo spots, homestays,

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meeting halls, gazebos, and MSME stands. This variety ensures that the agrotourism site caters to different interests and needs, enhancing its appeal to a broad audience. The diverse product offerings cater to varied consumer preferences, increasing the likelihood of attracting a larger number of visitors. By providing educational and recreational activities, the site appeals to both local residents and tourists, enhancing its market potential. The broad range of services aligns with current consumer trends that favor experiential and educational travel. By offering a mix of activities and facilities, the site effectively taps into different market segments, including families, tourists, and local residents. The clear and diverse product range demonstrates the site's ability to meet varied consumer needs, making it a viable option in the competitive agrotourism market.

The pricing strategy includes affordable ticket and tour package options, which are essential for attracting a wide range of visitors. The site’s strategic location ensures easy accessibility from various regions, enhancing its distribution channels. Affordable pricing combined with easy access maximizes visitor potential, making the agrotourism site an attractive option for a broad audience. Competitive pricing and strategic location reduce barriers to entry for visitors, encouraging higher turnout and repeat visits. The effective distribution strategy and pricing make the agrotourism site financially accessible, supporting its overall feasibility.

Promotion is executed through social media and local influencers, leveraging modern marketing channels to reach a broader audience. The agrotourism site also emphasizes the maintenance of facilities and equipment, ensuring a pleasant visitor experience. The customer service team is friendly and well-trained, further enhancing visitor satisfaction. The entire process, from reception to tour guides and attraction arrangements, adheres to well-organized standard operating procedures (SOPs). Effective promotion and well-maintained facilities contribute to a positive visitor experience, which can lead to increased word-of-mouth referrals and repeat business. The use of social media and influencers expands reach and visibility. Utilizing social media and local influencers aligns with contemporary marketing strategies, while maintaining high standards of service and facilities ensures a positive reputation and high customer satisfaction. The integration of modern promotional strategies with well-maintained facilities and clear SOPs demonstrates the site's commitment to quality and customer satisfaction, enhancing its market feasibility.

Siantan Hilir Peat Village Agrotourism values diversity in its management team, comprising local residents from various cultural and ethnic backgrounds. Respect for local wisdom and traditions is a key focus, while promotional efforts are geared towards educating the public and boosting ticket and tour package sales. Involving the local community and respecting cultural traditions fosters goodwill and supports sustainable tourism practices, while targeted promotions can effectively drive sales. Engaging with the local community and respecting cultural values enhances the authenticity and attractiveness of the agrotourism site. This approach also helps build strong local support and loyalty. The emphasis on community involvement and respect for local culture strengthens the site’s appeal and marketability, contributing to its overall feasibility. Based on the analysis of the market aspects, Siantan Hilir Peat Village Agrotourism demonstrates clear product offerings, competitive pricing, effective distribution and promotion strategies, and a commitment to community involvement. The well-maintained facilities and organized processes further support its feasibility. These elements collectively ensure that the agrotourism site is well-positioned for success in the market.

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Social Aspect

The social aspect of Siantan Hilir Peat Village Agrotourism encompasses social and environmental responsibilities, aligning with the Corporate Social Responsibility (CSR) framework outlined by Astuti & Susilowati (2022). This framework highlights the importance of community support and diversity. The high level of local resident involvement in both the planning and management of the agrotourism site, including active participation from neighborhood leaders (ketua RT) in planning meetings, ensures that the project is deeply rooted in local needs and perspectives. The management body, BUMRW (Badan Usaha Milik RW), is entirely composed of RW 33 residents, which further strengthens local engagement and ownership. The extensive participation of local residents leads to a strong sense of community ownership and investment in the project, enhancing its sustainability and relevance. Local involvement ensures that the agrotourism project aligns with community needs and priorities, fostering support and facilitating smoother implementation. The emphasis on community-based management also enhances transparency and accountability.

The high level of local involvement and the establishment of employment opportunities, partnerships, and community empowerment initiatives demonstrate that the project effectively supports social and economic development, contributing to its overall feasibility. The process involves engaging local residents in every stage of the agrotourism project, from planning to management, ensuring that their input is integral to decision-making. Training programs are implemented to build skills in sustainable agriculture, tourism, and small business management, which further empowers the community. In terms of diversity, Siantan Hilir Peat Village Agrotourism promotes inclusive policies and a diverse workforce. Management includes local residents, while the development team can include individuals from various regions, regardless of cultural or ethnic backgrounds, provided they have the necessary skills. Local community involvement is comprehensive, including various groups such as women, men, different age groups, and diverse cultural backgrounds, who are all encouraged to participate in agrotourism activities. Micro, Small, and Medium Enterprises (UMKM) are also given opportunities to operate stands around the community hall, showcasing local products.

These inclusive practices ensure broad community engagement and equitable opportunities, enhancing the project's social impact and appeal. Inclusive policies and practices ensure that the agrotourism site benefits from diverse perspectives and skills, promoting social cohesion and maximizing the economic benefits for a wide range of community members. The emphasis on diversity and inclusion supports the site’s feasibility by ensuring broad community support and participation, which are crucial for the long-term success and sustainability of the agrotourism project. The process includes implementing inclusive management policies, promoting the participation of various community groups, and integrating local businesses into the agrotourism framework. Training and education programs are designed to support skill development and cultural preservation.

An example of local norms and wisdom that strengthen tourism development includes respecting traditional customs and cultural practices. For instance, community festivals and traditional ceremonies are integrated into the tourism experience, allowing visitors to engage with and learn about local culture. Additionally, local wisdom such as sustainable land management practices and traditional agricultural techniques are highlighted in educational programs, enhancing the authenticity and environmental sustainability of the agrotourism experience. Siantan Hilir Peat Village Agrotourism fulfills key aspects of social feasibility by effectively involving the community,

ISSN 2580-0566; E-ISSN 2621-9778
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promoting diversity, supporting local enterprises, and preserving cultural heritage. These factors collectively contribute to its success and sustainability as a socially responsible and inclusive agrotourism venture.

Financial Feasibility

Financial feasibility analysis is a tool for assessing whether a project is economically viable over its expected lifespan. According to Gittinger (1986), this type of analysis involves comparing investments and costs against the anticipated benefits to determine a project's overall feasibility. For this study, several key investment criteria are employed: Net Present Value (NPV), Benefit-Cost Ratio (B/C Ratio), Internal Rate of Return (IRR), and Payback Period (PP). Each of these metrics provides insights into different aspects of financial viability.

Revenue Inflows

Siantan Hilir Peat Village Agrotourism generates revenue from four primary sources: tourism units, outlets, parking, and livestock.

1. **Tourism Units:** This source includes revenue from ticket sales. For instance, each visitor pays Rp 50,000 for a ticket, and the target is to attract 10,000 visitors annually, the annual revenue from ticket sales alone would be Rp 500,000,000. Given a target growth rate of 10% in visitor numbers per year, this revenue increases substantially over time.
2. **Parking Fees:** Revenue is also generated from fees charged for motorcycle and car parking. If the parking fee is Rp 5,000 per vehicle and the site averages 200 vehicles per day, this results in Rp 1,000,000 daily or Rp 365,000,000 annually.
3. **Outlet Units:** Income is derived from renting stalls to vendors. A rental fee of Rp 2,000,000 per stall and the site hosts 20 stalls, the annual revenue from stall rentals would be Rp 40,000,000.
4. **Livestock Sales:** The sale of goats and cows contributes to revenue. If the average sale of livestock annually is Rp 50,000,000, this adds a substantial amount to the overall revenue.

Over a 15-year period, the total projected revenue is Rp 30,189,770,691. The revenue trajectory is expected to peak in the 15th year at Rp 4,489,535,308, reflecting the cumulative effect of increasing visitor numbers and potential improvements in service quality. For example, enhancing visitor experiences through upgraded facilities or better services could attract more visitors, thereby increasing ticket sales and overall revenue.

Expense Outflows

Siantan Hilir Peat Village Agrotourism incurs two primary types of expenses: investment costs and operational costs.

1. **Investment Costs:** These include the purchase of land, buildings, agricultural units, livestock facilities, and other infrastructure. Over 15 years, the total investment is Rp 2,381,325,000. For example, if purchasing land and constructing buildings costs Rp 1,500,000,000 and setting up agricultural and livestock units costs Rp 881,325,000, these initial costs are significant but necessary for establishing the agrotourism site.
2. **Operational Costs:** These are further divided into fixed and variable costs:
   a. **Fixed Costs:** These include land and building taxes, which amount to approximately Rp 6,600,000 annually. For example, the annual tax is Rp 6,600,000, over 15 years, the total fixed cost would be Rp 99,000,000.

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b. **Variable Costs:** These fluctuate based on the level of output and include costs for maintenance, utilities, and wages. The estimated variable costs are Rp 13,513,012,397 over 15 years. For instance, maintenance and utility costs are IDR 500,000 monthly, this amounts to Rp 6,000,000 annually.

The total expenses over 15 years amount to Rp 15,894,337,397, with the highest expenditure of Rp 2,381,325,000 occurring in the first year due to the significant initial investment. This high initial cost reflects the upfront capital needed to establish the infrastructure and operational capabilities of the agrotourism business. In summary, the financial feasibility of Siantan Hilir Peat Village Agrotourism is assessed through detailed evaluation of revenue inflows and expense outflows, using investment criteria like NPV, IRR, B/C Ratio, and PP. This analysis provides a comprehensive understanding of the project's economic viability and helps in making informed decisions regarding its implementation and management.

Net Present Value (NPV)

The financial feasibility analysis aims to evaluate whether an agrotourism business is economically viable over its anticipated operational lifespan. This assessment involves using various financial metrics: Net Present Value (NPV), Internal Rate of Return (IRR), Net Benefit-Cost Ratio (Net B/C Ratio), and Payback Period (PP). These metrics are essential for understanding the potential profitability and financial sustainability of the business. The analysis utilizes the prevailing interest rate at the time of the study, which is 15% based on the Bank Rakyat Indonesia rate for 2022.

Table 1. Financial Feasibility Analysis Results of Agrotourism in Siantan Hilir Peat Village

Feasibility Indicators	Value	Description
NPV	Rp 800,695,708	Feasible
IRR	20%	Feasible
Net B/C ratio	1,33	Feasible
Payback period	2 years	Feasible

Source: Primary Data (2022)

NPV measures the difference between the present value of cash inflows and outflows over a period of time. It helps determine how much value the project is expected to add to the investor. In this case, the NPV of Rp 800,695,708 indicates that the agrotourism business is projected to generate a net benefit of Rp 800,695,708 over 15 years. **T**he project requires an initial investment of Rp 2,381,325,000 and generates future cash flows (discounted to present value) amounting to Rp 3,182,020,708, the NPV is calculated Rp 800,695,708 Since the NPV is positive, it suggests that the investment will result in a gain, making the business financially feasible. IRR represents the annualized percentage return expected from the investment. It is the discount rate at which the NPV of the project equals zero. The IRR of 20% exceeds the discount rate of 15%, indicating that the project is expected to generate returns significantly higher than the cost of capital. IRR calculated use the cash flows of the project and find the discount rate that makes the NPV zero. The projected cash flows are such that IRR calculations yield 20%. Since 20% is greater than the discount rate of 15%, the investment is considered attractive.

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Net Benefit-Cost Ratio (Net B/C Ratio)

The Net B/C Ratio compares the total benefits of a project to its costs. A ratio of 1.33 means that for every Rp 1 spent, the business is expected to generate Rp 1.33 in benefits. This ratio, being greater than 1, indicates that the benefits outweigh the costs, supporting the financial viability of the project. The total benefits are Rp 20,000,000 and the total costs are Rp 15,000,000, the Net B/C Ratio is 1.33 This ratio confirms that the project will provide a positive return relative to its costs. A similar study by Evahelda et al. (2023) on the feasibility analysis of Hanjeli farming in Waluran Mandiri Village used the revenue-cost (R/C) ratio, which yielded a value of 1.59, indicating that Hanjeli farming was feasible. According to Soekartawi (1995), the difference between the Net B/C ratio and the R/C ratio is that while the B/C ratio analysis compares benefits to costs, the R/C ratio focuses on the relationship between revenue and costs. The B/C ratio analysis essentially evaluates the benefits relative to the costs, with a higher ratio indicating greater profitability.

Payback Period (PP)

The Payback Period indicates the time required to recover the initial investment from the project's cash inflows. A payback period of 2 years means that the initial investment will be recovered in 2 years, which is considerably shorter than the project's lifespan of 15 years. If the annual net cash inflows are Rp 1,200,000,000 and the initial investment is Rp 2,381,325,000, the payback period is 2 years. A payback period of 2 years indicates a relatively quick return on investment, enhancing the project's attractiveness. In conclusion, the financial feasibility analysis of Siantan Hilir Peat Village Agrotourism shows that the project is economically viable. Positive NPV, an IRR greater than the discount rate, a Net B/C Ratio above 1, and a short Payback Period all contribute to the project's overall financial feasibility. This comprehensive analysis demonstrates that the agrotourism venture is likely to be a sound investment with promising returns.

Sensitivity Analysis Regarding a 10% Decrease in Ticket Sales Revenue

The decline in revenue includes a 10% reduction in tickets purchased for all ticket items. This revenue drop is based on earnings in 2022 compared to the first four months of 2023.

Table 3. Sensitivity Analysis of a 10% Decrease in Sales for All Types of Tourist Tickets

Feasibility Indicators	Value	Description
NPV	Rp 364,313,105	Feasible
IRR	18%	Feasible
Net B/C ratio	1,15	Feasible
Payback period	2 years	Feasible

Source: Primary Data (2022)

Based on calculations, the NPV value obtained is Rp 364,313,105. This means that the agrotourism business, considering a 20% increase in urea fertilizer price, yields a net benefit of IDR Rp 364,313,105 over a 15-year period. As this value is greater than 0, based on the NPV criteria, the business remains feasible to operate. The calculated Net B/C value stands at 1.15. This means that for every IDR 1 of cost incurred by the agrotourism business with a 10% decline in ticket revenue, it provides a net benefit of IDR 1.05. As this value is greater than one, it suggests that the agrotourism venture, under those conditions, is viable to operate.

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Meanwhile, the IRR value achieved is 18%. The IRR percentage indicates the return rate of the business on the invested capital. Both of these values are higher than the utilized discount rate, which is 15%, making the agrotourism business, considering a 10% decline in ticket revenue, feasible. The payback period (PP) for this venture is 2 years. As the payback period is faster than the business's lifespan of 15 years, the agrotourism in Siantan Hilir Peat Village Agrotourism, with a 10% decline in ticket revenue, is deemed worthy of operation.

Although the payback period indicates a relatively quick return on investment, the low values of NPV, IRR, and Net B/C Ratio suggest several things. According to Suwinardi (2016), if sensitivity analysis results show low NPV (Net Present Value), IRR (Internal Rate of Return), and Net B/C (Net Benefit-Cost Ratio), but a relatively fast payback period, this could be attributed to several factors:

1. High Initial Revenue: The project might generate high revenue in the early stages, enabling a quick achievement of the payback period. However, this income may not be sustained in the long term or could diminish after the initial period, causing NPV, IRR, and Net B/C Ratio to be low.
2. Low Initial Costs: If the initial costs of the project or investment are relatively low, the payback period can be achieved swiftly. Yet, if the generated cash flow isn't substantial enough to offset the initial costs and achieve significant profits, NPV, IRR, and Net B/C Ratio will be low.
3. Divergent Cash Flow Curve: Sensitivity analysis might consider changes in specific variables affecting the project's cash flow curve. If these changes result in a faster payback period but lower future cash flows, NPV, IRR, and Net B/C Ratio could exhibit lower outcomes.
4. Disregard for Time Value of Money: The payback period does not consider the time value of money, while NPV and IRR account for it in their calculations. If the project yields a large initial positive cash flow but neglects the time value of money, the payback period might seem rapid, whereas NPV and IRR, considering the time value of money, could display different outcomes.
5. Lack of Risk Consideration: The payback period doesn't incorporate the risk associated with the project or investment. If sensitivity analysis results don't factor in potential risk variations, NPV, IRR, and Net B/C Ratio may showcase low values.

CONCLUSION AND SUGGESTION

It can be concluded that the non-financial feasibility analysis of Siantan Hilir Peat Village Agrotourism shows that it is feasible to operate based on technical, management, market, and social criteria. Meanwhile, based on the financial analysis, Siantan Hilir Peat Village Agrotourism is deemed feasible. Thus, Siantan Hilir Peat Village Agrotourism is not only feasible but also a promising venture with positive implications for operational success, financial stability, and strategic growth. This foundation supports the continuation and expansion of the project, providing a robust framework for future development. Therefore, the suggestion based on the analysis results is to continue the development and operation of agrotourism in Siantan Hilir Peat Village Agrotourism. Special attention should be given to risk management, especially in handling income fluctuations, and the focus should be on providing good services and developing products to maintain visitor interest. Diversifying revenue sources and creating a contingency fund can help manage income fluctuations. Regular staff training and visitor feedback will improve service standards. Innovation in products and seasonal promotions will sustain visitor interest. Additionally, effective marketing, loyalty programs, and community engagement will help maintain visitor attraction and support long-term business sustainability.

ISSN 2580-0566; E-ISSN 2621-9778
http://ejournal2.undip.ac.id/index.php/agrisocionomics
Vol 9 (1): 179-193, March 2025

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