

Local Potential-Based Rural Development in Aceh Besar District, Indonesia

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Abstract: This study explores local potential-based rural development in Saree Village, Aceh Besar District, Indonesia. Saree holds significant promise as an agrotourism destination rooted in conservation and education. The village is endowed with rich natural assets, including Pocut Meurah Intan Grand Forest Park, Mount Seulawah Agam and Seulawah Inong, and the Saree Elephant Training Center, all of which support the development of sustainable ecotourism. These advantages are complemented by the presence of an Agro Techno Park and an integrated farming system producing key commodities such as avocados, red chilies, and tomatoes. This qualitative descriptive research employed field observations, interviews with local stakeholders, and literature reviews to identify and analyze the village's local potentials. The Business Model Canvas (BMC) was applied as an analytical framework to map out the integration of local resources into tourism-based economic development. Economically, over 65% of Saree's population depends on the agricultural sector, supported by training institutions such as Agro Saree Aceh that promote sustainable and technology-based farming. Collaborative efforts among local communities, village-owned enterprises (BUMG), government agencies, and the private sector play a crucial role in shaping Saree as an educational tourism village. The findings indicate that local resources can be effectively transformed into community-based tourism products that generate income, enhance local capacity, and preserve environmental sustainability. Key success factors include digital marketing strategies, human resource development, and infrastructure improvement.

Keywords: Local Potential, Rural Development, Agrotourism, Sustainable Tourism, Integrated Farming.

1. Introduction

Rural development is one of the key pillars in achieving equitable national development (Ghimire, 2023). This aligns with the mandate of Law No. 6 of 2014 on Villages, which emphasizes the importance of village autonomy in exploring and managing local potential to improve community welfare (Han, n.d.; Zhang et al., 2015). In the context of Indonesia, more than 74,000 villages are spread across the archipelago, each with diverse geographical, social, economic, and cultural characteristics (Ashforth & Mael, 1989). Every village inherently possesses unique local potentials, ranging from natural resources, human resources, and social institutions to cultural heritage (Astari et al., 2024; Baker, 2015). However, in reality, much of this potential remains underutilized due to various constraints, such as limited resources, lack of access to information, low managerial capacity, and insufficient policy support that is grounded in accurate data and local needs (Mwendera et al., 2003; Sheffield et al., 2018).

According to data from Statistics Indonesia (BPS), as of 2023, approximately 12.5% of villages in Indonesia are still categorized as underdeveloped, 47.1% as developing, and only 40.4% have reached the status of advanced and self-sufficient villages. This indicates that development disparities among villages remain significant and have yet to fully stimulate local economic transformation. In fact, a development approach based on local potential is considered one of the most realistic and sustainable strategies, as it builds upon the internal strengths of the village itself. Local potentials may include agriculture, fisheries, livestock, forestry, handicrafts, tourism, and creative economies.

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Recognizing and developing these local potentials can create employment opportunities, increase income, and reduce dependency on external assistance (Hidayat & Syahid, 2019). One successful example of local potential-based rural development can be found in Pentingsari Village, Sleman, Yogyakarta, which has managed to transform its natural and cultural assets into a community-based ecotourism destination. According to the Ministry of Villages, Development of Disadvantaged Regions, and Transmigration (Kemendes PDTT), in 2022, village tourism contributed to an average increase of 24% in village-generated income (PADes) in areas that successfully managed their local assets. This demonstrates that participatory management of local potential can serve as a driving force for rural economic development.

However, not all villages have the same capacity to identify, map, and utilize their local resources. Many still rely heavily on central government transfers, lacking long-term development strategies based on their regional competitive advantages. Another issue is the low added value from village economic sectors. For instance, the majority of Indonesian villages are based on agrarian economies, yet many only serve as producers of raw materials without further processing. As a result, villages fail to fully benefit from economic opportunities (Kurniawan & Cahyono, 2020; Morrissey et al., 2008). Furthermore, local potential-based development is closely tied to environmental sustainability. If villages exploit their resources without considering environmental carrying capacity, long-term ecological damage may occur. Therefore, a sustainable development approach must serve as the guiding principle in managing local potential. For example, in developing nature-based tourism, villages must ensure the conservation of water resources, forests, and biodiversity (Izudin et al., 2024; Yohana, 2021).

Various national programs—such as Village Funds, the Village Innovation Program (PID), and the Rural Area Development Program—have provided opportunities for villages to explore and develop their potential. However, the effectiveness of these programs largely depends on local initiative, the leadership capacity of village officials, and the availability of accurate and participatory data. By directing rural development towards genuine, locally advantageous potential, it is hoped that more inclusive, efficient, and sustainable development can be achieved. Thus, research on local potential-based rural development is not only relevant but essential. This study aims to explore, identify, and analyze the local potential of a village, including the challenges and opportunities for its development.

2. Materials and Methods

The research adopted a qualitative descriptive method aimed at comprehensively exploring the local potential and development strategies of Saree Village, located in Aceh Besar Regency, Aceh Province. This approach was chosen to allow an in-depth understanding of the various socio-economic, cultural, and environmental aspects that influence the utilization of local potential within the village context. The study was conducted over a three-month period, from January to March 2025. Data collection techniques included in-depth interviews with a diverse range of key informants such as village government officials, representatives of BUMDes (Village-Owned Enterprises), local farmers, youth leaders, tourism practitioners, and community-based organizations. Focus group discussions (FGDs) were also conducted with farmer groups, women's associations (PKK), and youth groups to obtain collective insights and community aspirations. In addition, field observations were carried out directly in various locations within Saree Village, focusing on agricultural sites, natural tourism areas, training centers, and community-run agro-tourism facilities. Secondary data sources such as village monographs, regional development plans, statistical reports from BPS Aceh Besar, and related policy documents were also analyzed to complement and strengthen the primary data. Informants were selected using purposive sampling, emphasizing those who had experience, knowledge, and involvement in the development process of Saree Village. Data analysis was performed using the Miles and Huberman interactive model, which

includes three main components: data reduction (organizing and summarizing raw data), data display (presenting data in a structured and meaningful way), and conclusion drawing/verification (identifying patterns, insights, and validating findings). To ensure the validity and reliability of the research results, methodological triangulation was applied by combining multiple data sources and techniques. Member checking was also carried out by reconfirming interview summaries with selected respondents.

3. Results and Discussion

Natural and Agrotourism Potential

Saree possesses exceptional natural resources that strongly support the development of an ecologically and educationally based agrotourism area. This region is located at the foot of Mount Seulawah Agam and Mount Seulawah Inong – two mountains of significant geological and ecological value – which are part of the Pocut Meurah Intan Grand Forest Park (Taman Hutan Raya/Tahura), a designated conservation area. The surrounding forest spans thousands of hectares of tropical rainforest, serving as a habitat for various endemic flora and fauna, including protected species such as Sumatran elephants, deer, and numerous rare bird species. These conditions make Saree a strategic location for the development of conservation-based and environmentally focused tourism.

One of the main attractions in the area is the Saree Elephant Training Center (Tempat Pelatihan Gajah/TPG Saree), which serves not only as a training facility for tame elephants used in conservation and human–wildlife conflict mitigation but also as an educational site for environmental awareness. The TPG has become a key destination for both local and international visitors interested in learning about wildlife conservation.

In addition to its conservation potential, Saree is also home to the Saree Agro Techno Park, a pilot project developed by the Aceh provincial government in collaboration with agricultural research institutions. This facility functions as a center for agricultural technology, training, and community education, supporting the development of an integrated agrotourism model. The Agro Techno Park receives more than 7,000 visitors annually, including students, university groups, and farmer associations from various districts across Aceh.

Table 1 Identification of Local Potentials and Development Opportunities in Aceh Besar District

No.	Type of Potential	Location Coverage	Potential Description	Development Opportunities
1	Pocut Meurah Intan Grand Forest Park	±2,000 hectares	Tropical forest with high conservation value; habitat for endemic flora and fauna (elephants, deer, protected bird species).	Trekking routes, conservation-based ecotourism, local guide training, enhanced digital promotion (AR/VR for nature tourism).
2	Mount Seulawah Agam & Seulawah Inong	Saree hill area	Mountainous area with geotourism potential and natural ecosystems; suitable for hiking, nature observation, and educational tourism.	Mapping of hiking trails, geological educational tourism, integration with school-based environmental education.
3	Saree Elephant Training Center (TPG)	±25 hectares	Conservation and educational facility for tame Sumatran elephants; attractive to tourists and students.	Wildlife education tourism, development of a conservation information center, eco-friendly lodging/homestay facilities.
4	Educational Agrotourism	Saree region	A combination of nature tourism, agriculture, education, and conservation;	Integrated destination masterplan, destination management training for local residents, promotion through

					attracts ±7,000 visitors per year (students, university groups, farmer communities).	social media and educational tourism portals.
5	Saree Agro Techno Park (as a Destination)	Integrated training area		In addition to agricultural training, this area is being developed as a center for agricultural technology tourism, with demonstration farms, greenhouses, and agricultural installations.	Digital agriculture tourism, educational school tours, agricultural product festivals, and community-based tourism promotion.	

Saree has been projected by the Aceh Besar District Government in the Master Plan for Regional Development (2021–2030) as a strategic agropolitan and agrotourism area, with a primary role as a center for training, high-value horticultural production, and nature- and agriculture-based tourism. The local government, in collaboration with local communities, has developed a master plan for Saree’s agrotourism development. This includes strengthening infrastructure accessibility, integrated management of natural tourist attractions, the construction of eco-friendly homestays, and the promotion of educational tourism through digital media.

Agriculture and Plantation Potential

The agricultural sector serves as the backbone of the Saree community. According to data from the Aceh Besar Central Statistics Agency (2023), approximately 65% of Saree’s population depends on agriculture and plantation activities for their livelihood. The region’s leading commodities include local varieties of avocado, lowland rice, red chili, tomatoes, and various tropical fruits such as mangosteen and tangerines. Saree avocados are widely known across Aceh for their large size, smooth texture, and rich flavor. Field survey results recorded that avocado cultivation spans approximately 120 hectares, with an average production of 15 tons per hectare per year—establishing Saree as one of the prominent avocado centers in Aceh.

In addition to avocados, the area features an integrated farming system that combines vegetable farming, staple crops, and household-scale livestock. This innovation has been developed with the support of Agro Saree Aceh, a training and agricultural development institution focused on enhancing the capacity of young farmers and promoting sustainable agricultural technologies. Training activities at Agro Saree include the use of organic fertilizers, intercropping techniques, environmentally friendly horticultural practices, and the application of digital tools in agricultural product marketing. Over the past three years, more than 500 local farmers have participated in regular skill improvement training sessions organized by the institution.

Table 2. Local Potential-Based Rural Development Opportunities in Aceh Besar District, Indonesia

No.	Type of Potential	Location Coverage	Potential Description	Development Opportunities
1	Pocut Meurah Intan Grand Forest Park	±2,000 hectares	Tropical rainforest with high conservation value; habitat for endemic flora and fauna (elephants, deer, protected bird species).	Trekking trails, conservation-based eco-tourism, local guide training, enhanced digital promotion (AR/VR nature tours).
2	Mount Agam & Seulawah Inong	Saree highland area	Mountainous region with geotourism potential and pristine ecosystems; suitable for hiking, nature observation, and educational tourism.	Trail mapping, geology education tourism, integration with environmental education programs in schools.

3	Elephant Training Center (ETC) Saree	±25 hectares	Conservation and education facility for domesticated Sumatran elephants; attractive for tourists and students.	Wildlife education tourism, development of conservation information center, eco-friendly lodging/homestay facilities.
4	Educational Agrotourism	Saree area	A combination of nature tourism, agriculture, education, and conservation; attracts ±7,000 visitors/year (students, university groups, farming communities).	Integrated destination master plan, destination management training for locals, promotion via social media and educational tourism portals.
5	Agro Techno Park Saree (as a Destination)	Integrated training complex	Beyond agricultural training, this site is being developed as a center for agricultural technology tourism with demo farms, greenhouses, and farming installations.	Digital farming tourism, school educational tours, agricultural produce festivals, and community-based tourism promotion.

The Role of Stakeholders in the Development of Saree Agrotourism Village

The development of Saree Agrotourism Village in Aceh Besar involves various stakeholders who play strategic roles in advancing agriculture- and ecology-based tourism. These stakeholders include the local Saree community, the Village-Owned Enterprise (BUMG), the Department of Culture and Tourism of Aceh Besar District, and private sector partners that support funding and promotional efforts. Each actor holds a distinct yet complementary role throughout the planning, implementation, and evaluation phases of the tourism village development program.

Table 3. Roles and Contributions of Key Stakeholders in the Development of Saree Tourism Village

Stakeholder	Roles and Development Activities
Saree Village Community	- Acts as the main executor of tourism village management- Establishes tourism awareness groups (Pokdarwis), youth organizations (Karang Taruna), and the Saree Cultural Creative Team- Develops local attractions, culinary experiences, and cultural performances
Saree Village-Owned Enterprise (BUMG)	- Serves as the managing institution for tourism village assets and business units- Manages homestays, souvenir shops, tour services, and educational gardens- Develops sustainable business plans
Department of Culture and Tourism of Aceh Besar	- Provides training and capacity building for tourism human resources- Develops the masterplan for Saree tourism village development- Provides supporting infrastructure such as information boards, shelters, and public restrooms- Facilitates the promotion of Saree tourism through regional events and digital media
Private Sector (financial institutions, travel agencies, investors)	- Provides financial support through investments or CSR programs- Develops integrated tourism packages- Establishes promotional partnerships with digital platforms and national travel networks

Business Model Canvas (BMC) for Saree Agrotourism Village

The Business Model Canvas (BMC) for Saree Agrotourism Village in Aceh Besar has been developed as a strategic framework to understand, design, and grow the village's business model based on its local potential. This approach refers to the framework introduced by Alexander Osterwalder and Yves Pigneur (2010), which divides a business model into nine core components: customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure.

This model is tailored to the socio-economic characteristics of the Saree community, the geographic and agricultural potential of the Aceh Besar highland area, and the sustainable opportunities of agriculture-based tourism (agrotourism). Through this BMC approach, Saree Village is expected to integrate its local advantages—such as coffee commodities, wild forest honey, horticultural products, and indigenous wisdom—into an

inclusive, productive, and long-term impactful business system for the well-being of its community.

Below is the mapping of Saree Village's business model based on the nine components of the Business Model Canvas:

Table 4. Business Model Canvas – Desa Agrowisata Saree, Aceh Besar

Key Partners	Key Activities
Department of Culture and Tourism of Aceh Besar Regency	Enjoying the natural beauty of Tahura Pocut Meurah Intan and the foothills of Mount Seulawah Agam
Private sector (financing institutions: banks, travel agencies, CSR investors)	Environmental education tourism at the Saree Elephant Training Center (TPG)
Local raw material suppliers such as: poultry farmers, horticultural plant nurseries, and local souvenir craftsmen	Agricultural tourism (cultivation of avocados, tomatoes, chilies, and mangosteens)
	Exploration of horticultural gardens and flower parks
	Digital agriculture education activities at the Saree Agro Techno Park
	Local cultural performances and traditional Saree culinary experiences
Value Proposition	Customer Relationship
1. Educational tourism experiences based on nature, agriculture, and culture	1. Visitor database management (schools, communities, travel agencies)
2. Cleanliness and comfort of the village	2. Distribution of brochures and tourism catalogs
3. Direct interaction with farmers, tame elephants, and local cultural performers	3. Communication via email, social media, and digital tourism apps
4. Quality of service and hospitality of the local community	4. Guided assistance by local tour guides during visits
5. Increasing community income through homestays, souvenir shops, and tourism services	
Customer Segments	Key Resources
1. Local and regional tourists (from Aceh and Sumatra)	1. Local human resources from Saree (farmers, youth, tourism actors)
2. Students, university learners, school communities, and families	2. Village physical assets: agricultural land, Tahura conservation area, Agro Techno Park infrastructure
3. National tourists with interests in ecotourism and educational agriculture	3. Natural, cultural, and agricultural potential as the main attractions
Channels	Cost Structure

Offline: Word-of-mouth promotion, village events, inter-school/university collaborations	Human resource development costs: manager salaries, training for farmers and tour guides
Online: Village website, social media platforms, YouTube, tourism marketplaces	Tourism facility development costs (homestays, tourist gardens, education centers)
	Budget for supporting infrastructure (public toilets, information boards, parking areas)
	Promotion and publication costs (digital and print media)

Revenue Streams

Entrance fees for nature-based and agrotourism activities in Saree

Homestay and tourism facility rentals

Sales of agricultural products, souvenirs, and local food

Community income from educational tourism trainings and workshops

Commercial partnerships with travel agencies and CSR-funded institutions

Brief Interpretation of the Business Model Canvas (BMC) for Saree Agrotourism Village:

Saree Agrotourism Village has developed a collaborative business model involving key partners such as the Department of Culture and Tourism, the private sector, and local suppliers. Its core activities focus on offering educational tourism experiences based on nature, agriculture, and culture—ranging from visits to the Tahura conservation area and elephant training center to horticultural gardens and agricultural technology parks.

The main value propositions include educational and authentic tourism experiences, village cleanliness and comfort, direct interaction with the local community, and warm hospitality. Customer relationships are maintained through visitor database management, tourism information dissemination, and guidance by local tour assistants.

Target markets include local and regional tourists, students, educational communities, and national ecotourism enthusiasts. Key resources consist of local human capital, the village's physical assets, and Saree's natural and cultural wealth.

Promotional efforts are carried out both offline (village events, school/university collaborations) and online (village website, social media platforms). Major cost components include human resource development, tourism facility enhancements, supporting infrastructure, and promotional activities. Revenue streams are generated from entrance fees, homestay and facility rentals, sales of agricultural products and souvenirs, educational tourism training programs, and commercial partnerships with travel agencies and CSR institutions.

4. Conclusions

Saree Village in Aceh Besar holds significant potential as an agrotourism area based on conservation and education. Its natural advantages—such as the Pocut Meurah Intan Grand Forest Park, Mount Seulawah Agam and Seulawah Inong, and the Saree Elephant Training Center (TPG)—strongly support the development of sustainable ecotourism. This potential is further enhanced by the presence of the Agro Techno Park and an integrated farming system that produces leading commodities such as avocados, red chili peppers, and tomatoes. Economically, more than 65% of Saree's population depends on the agricultural sector, supported by training institutions like Agro Saree Aceh, which promote sustainable and technology-based agriculture. Moreover, synergy among stakeholders—including the local community, Village-Owned Enterprises (BUMG), the Department of Tourism, and private sector actors—plays a vital role in the development of this tourism village. Through the Business Model Canvas approach, Saree Agrotourism

Village integrates its local potential into educational tourism products that actively engage the community, create economic opportunities, and preserve environmental sustainability. Key factors for ensuring the long-term success of this program include digital marketing strategies, human resource training, and infrastructure development.

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