

Sustainable Tourism through Coffee: Agrotourism Development in Turekisa Village, Ngada Regency, East Nusa Tenggara

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ABSTRACT

Agrotourism in Indonesia stands as a vital potential for development support. Indonesia boasts numerous agrotourism destinations, with one such developed site located in Turekisa Village, Ngada Regency, East Nusa Tenggara (NTT). This tourist destination has gained prominence due to its breathtaking natural beauty, often dubbed as the "land above the clouds," a reputation that continues to grow alongside the increasing number of visitors to the hills and the abundant natural resources, particularly the substantial coffee production at Bukit Wolobobo. The coffee cultivated around Bukit Wolobobo is of the Arabica variety. The aim of this study is to analyze strengths, opportunities, weaknesses, and threats, and to determine development strategies for coffee-based agrotourism in Turekisa Village, Ngada Regency. The research methodology employs SWOT analysis, drawing data from interviews with six key informants: the Head of Agriculture Department, Head of Tourism Department, Agricultural Extension Officer, Chairperson of the Coffee Farmers' Group, Tourism Management, and Community Leaders. The findings of this study indicate placement in Quadrant I, suggesting that the coffee plantation agrotourism in Turekisa Village needs to be maintained and further enhanced given its significant quality potential.

Keywords: Agrotourism; Arabica coffee; SWOT analysis.

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INTRODUCTION

Agrotourism in Indonesia plays a crucial role in development, as we know it's only concentrated in a few locations. However, the development of agrotourism has rapidly expanded after realizing that it is the world's largest foreign exchange earner. Agrotourism is a type of nature-based tourism activity that utilizes agricultural potential as tourist attractions, including landscapes, agricultural areas, and the diversity of agricultural production activities and technologies, as well as the cultural aspects of local farming communities. The purpose of agrotourism activities is to broaden knowledge (Sangadi & Handriana, 2023), recreational experiences, and business relationships in agriculture, covering food crops, plantations, fisheries, and animal husbandry. Additionally, forestry and agricultural resources are also included in agrotourism. The combination of natural beauty and fascinating tourist destinations, the livelihoods of local communities, and agricultural potential, if properly managed and seriously handled, can develop attractive destinations for tourists (Rafa'al & Sangadji, 2023; Simabur, 2024). Agrotourism featuring a variety of plants can benefit in improving microclimate quality, maintaining hydrological cycles, reducing erosion, preserving the environment, and providing aesthetic environmental designs when

managed and designed properly. With the development of agrotourism in a tourist destination, it will benefit the increase in income for both the local community and the government. In other words, tourism functions can be carried out alongside agricultural and rural settlement cultivation functions, as well as conservation functions.

According to Wijayanti (2019), Agrotourism serves as non-formal educational efforts for both the local community and tourists visiting. Agrotourism facilitates a more easily understood and remembered learning process. Furthermore, the learning that takes place in agrotourism is essential as it supports the learning process carried out in schools to deepen learning and impact academic understanding. Agrotourism can positively contribute to rural communities (Wijayanti, 2019). It can create job opportunities for rural communities, leading to increased income, which subsequently affects the economy and other activities in the community. Indonesia has numerous agrotourism sites, one of which is Bukit Wolobobo located in Turekisa Village, Ngada Regency, East Nusa Tenggara (NTT). This hill has become viral or famous due to its natural beauty, often dubbed the "Land above the clouds," which is now further developing with the increasing number of tourists visiting the hill. Bukit Wolobo also boasts abundant natural resources, especially coffee commodities, particularly Arabica coffee.

Coffee is one of the most traded commodities globally, with a total trade value of 30.9 billion USD according to (International Coffee Organization, 2023). Consuming coffee has many positive benefits, such as enhancing physical performance, fat burning, and reducing the risk of stroke, liver, and prostate cancer by 20% according to the Journal of Review on Health Benefit and Risk of Coffee Consumption. Cold-brewed coffee has lower acidity compared to hot-brewed coffee, making it a more gentle choice for those with sensitive stomachs and acid reflux (www.healthline.com, 2018). Ngada Regency is a major coffee-producing region in East Nusa Tenggara Province, covering an area of 6,040 hectares. Of this area, 5,234 hectares are dedicated to Arabica coffee cultivation, while the remaining 806 hectares are for Robusta coffee. The quality of Arabica coffee is relatively low due to the traditional processing methods passed down through generations. Additionally, other factors affecting the low price of coffee at the farmer level include the distance of coffee marketing between islands to the end buyers and the longer supply chain. Consequently, farmers cannot fully enjoy the benefits of their produce, and the development of Arabica coffee in this area progresses slowly compared to other regions in Indonesia. However, farmers in this region depend on coffee for their livelihoods. According to a study by the Indonesian Coffee and Cocoa Research Center, Arabica coffee from Ngada Regency has the potential to become export-quality coffee beans with a distinct taste. These potential Arabica coffee plantations are scattered in two districts, Golewa and Bajawa, located at altitudes of 1,200–1,400 meters above sea level. An article from *Harian Flores Pos* dated May 28, 2009, noted optimism regarding the potential of Arabica Coffee Flores Bajawa in the United States market due to its high quality.

Similarly, the Arabica Flores Coffee Factory is one of the companies engaged in Arabica coffee sales. This coffee factory is located in Flores Bajawa, Ngada Regency. The company was established based on its ability to produce goods and services that

meet the needs of the community, namely Arabica coffee beverages. The coffee company produces and sells only one type of Arabica coffee product. To meet the public's taste for Arabica coffee, the company is required to produce high-value, high-quality goods and services to compete with other companies producing similar products. Arabica Flores Bajawa coffee is named so because the trees are planted in mountainous areas. It is grown and processed organically without any chemical intervention. The cool climate of the Bajawa region, located in the mountains, allows coffee to grow vigorously with unique characteristics. Good Arabica Flores Bajawa coffee beans are generally red in color, with a highly bitter taste due to their high caffeine content. It is best consumed when warm, in line with the cold climate of its place of origin. It has a woody aroma and a bitter coffee taste resembling milk chocolate with a hint of berry impression.

Based on these background issues, the objectives of this research are to analyze the potential strengths and opportunities for developing coffee-based agrotourism in Turekisa Village, Ngada Regency; to analyze the weaknesses and threats of developing coffee-based agrotourism in Turekisa Village, Ngada Regency; and to determine strategies for developing coffee-based agrotourism in Turekisa Village, Ngada Regency.

LITERATURE REVIEW

Arabica coffee is a type of coffee plant that was first cultivated in Ethiopia's highlands. It was then brought and developed by the Arabs in Yemen. In the 17th century, Europeans brought it to Java and Brazil, eventually spreading to various parts of the world. Arabica coffee trees are shrub-like, reaching heights of up to 6 meters if not pruned. These plants can be grown under shade trees or in open fields. They have deep roots and can be intercropped with wood or other crops. Arabica coffee contains caffeine levels ranging from 0.8% to 1.4% (Arvian, 2018).

As a perennial plant, coffee can remain productive for up to 20 years. When starting a coffee cultivation business, carefully choose the type of coffee plant. Factors affecting coffee cultivation success include the type of plant, cultivation techniques, post-harvest handling, and product marketing. Selecting the right type of coffee plant for cultivation should be based on the location or site of the land. Locations above 800 meters above sea level are suitable for planting Arabica, while elevations of 400-800 meters are suitable for Robusta. The land in Ngada Regency is particularly suitable for Arabica coffee cultivation. Arabica coffee generally has a fragrant aroma reminiscent of fruits or flowers, often accompanied by nutty notes, which contributes to its higher market price.

Coffee, known as "people's coffee" in agrotourism development, is an effort to educate the community about coffee-based agrotourism, particularly Arabica coffee, so that people can experience the unique flavor of Bajawa Arabica coffee while enjoying tourist attractions at the summit of Wolobobo. Gunawan (2016) stated in his research that the activities and culture of coffee farmers can be developed into one of the thematic tourism destinations based on coffee farming. However, participatory analysis indicates that the planned development of the tourism village is not widely known by the community, which could hinder its progress, as tourism villages are a collective idea developed by the entire community.

Dwiridotjahjono et al. (2017) in their study titled "Development of Agroecotourism Based on People's Coffee Plantations in Tukur Subdistrict, Pasuruan Regency" explained a model for developing community-based coffee agrotourism through socialization, implementation, and evaluation. The approaches used in the action program include: 1) Participatory Rural Appraisal (PRA) Model; 2) Entrepreneurship Capacity Building (ECB) Model; 3) Technology Transfer (TT) Model. Implementation of these models resulted in increased understanding of coffee production among the community and improved their welfare.

Village tourism is now becoming more attractive than urban tourism, with rural tourism becoming a destination for vacationers. The current potential in agriculture and plantations, including rice farming, soybeans, other crops, cocoa plantations, coffee, durian, and livestock products such as milk, is significant. Coffee and cocoa are important assets that are being highlighted in the region (Wihartanti et al., 2020). Based on the literature review presented, this study will focus on the development of coffee-based agrotourism for comparison and reference purposes.

METHOD

The research in question employs field research methodology coupled with a SWOT analysis approach. The purpose of this approach is to gather comprehensive, accurate, and objective data and insights. The research involves observation and interviews. Qualitative methods are utilized, emphasizing deductive and inductive reasoning processes and analyzing the dynamics of observed phenomena using scientific logic (S. Sangadji et al., 2022). Furthermore, qualitative research methodology is rooted in post-positivism philosophy, investigating natural objects with researchers as key instruments, employing purposive and snowball sampling techniques for data collection, and combining primary data with scientific analysis results. This is done to identify field-related issues concerning the development of Community-based Coffee Agrotourism in Turekisa Village, Ngada Regency.

The data utilized in this research are qualitative, comprising descriptive information that cannot be directly quantified but must be detailed, such as the general description of the research location, coffee types, and community opinions regarding coffee-based agrotourism. The data are derived from two sources: primary and secondary. Primary data originate from interview outcomes with research informants. Data analysis techniques involve qualitative descriptive analysis and SWOT analysis. SWOT analysis is a systematic tool used to formulate strategies by assessing various factors based on maximizing strengths and opportunities while minimizing weaknesses and threats (Rangkuti, 1998; Sari et al. 2021; Silitonga et al., 2020).

Strategic decision-making processes are closely linked to the development of the mission, objectives, and potential of community-based coffee agrotourism in Turekisa Village, Ngada Regency. Thus, the strategic plan involves the development of Arabica coffee with distinct flavors, necessitating an analysis of strategic factors related to strengths, weaknesses, opportunities, and threats based on the current situation. This process is known as situational analysis, with the SWOT analysis being the most commonly used model. Data collected, processed, and analyzed descriptively adopt and adapt the SWOT analysis model, which involves qualitative analysis of internal and external factors. Internal factors encompass strengths and weaknesses, while

external factors consist of opportunities and threats (Suhardi, 2019; Sangadji et al., 2020).

RESULT AND DISCUSSION

Ngada Regency is one of the main coffee-producing areas in East Nusa Tenggara Province (NTT). Coffee production in Ngada Regency experienced a decline of 19.2% in 2013, followed by an increase of 20.6% in 2014-2015. However, in 2016-2017, coffee production relatively decreased by 19.5%, with a total production of 3459 tons. Among its districts, Bajawa, comprising 7 urban villages and 14 rural villages, stands out. Notably, among these villages, Turekisa Village is the most dominant in cultivating Arabica Coffee. Turekisa Village has gained recognition for its popular organic Arabica Coffee plantation endeavors, both locally and nationally. Arabica Coffee, as a prominent agricultural product, has become a significant source of income for farmers, entrepreneurs, and plantation workers. The increasing demand for coffee, both domestically and internationally, necessitates continuous efforts to enhance domestic coffee plant productivity (Haryanto, 2012).

Several factors contribute to the understanding of agrotourism development based on coffee in Turekisa Village. Firstly, the strategic geographical location of Turekisa Village enhances its potential for development. The village's proximity to Wolobobo Hill and its hilly terrain add to its captivating natural beauty. Additionally, Lake Ranau, located 2 km away, further enriches the scenery. Bajawa's Arabica Coffee, recognized as the finest, is cultivated by the residents of Turekisa Village. The high fertility of the soil, characterized by nutrient-rich layers up to 1 to 2 meters deep, contributes to the high quality of crops grown above it. The coffee plants exhibit dense fruiting with each stem filled with coffee cherries. The year-round flow of water from Wolobobo Hill is utilized by the community for daily needs and to irrigate the coffee plantations.

Arabica Coffee is the flagship product of Turekisa Village, with an average land area of 4 hectares per household. Employing agricultural technology and superior seedlings, such as grafting mature coffee tree stems with strong roots, ensures the production of dense and high-quality coffee beans. The development strategy for coffee-based agrotourism in Turekisa Village employs SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats). This analysis identifies the strengths, weaknesses, challenges, and opportunities with the potential for development in Turekisa Village. The following section presents the findings of this analysis.

Table 1. Internal Factor Analysis & External Factor Analysis Matrix

Indicator (1)	Weight (2)	Rating (3)	Score (Weight x Rating) (4)
Opportunities (O):			
Government support to attract foreign tourists.	0,20	4	0,80
Expansion of coffee fields for Agrotourism.	0,26	3	0,78
Modernization of coffee cultivation machinery.	0,14	2	0,28
Total opportunities			1,86
Threats (T):			
Pest and disease attacks	0,13	-3	-0,39
Some coffee farmers convert land for vegetable cultivation	0,27	-4	-1,08
Total threats			-1,47

Indicator (1)	Weight (2)	Rating (3)	Score (Weight x Rating) (4)
Total External Factors			0,39
Strengths (S):			
Fertile natural conditions	0,19	3	0,57
Increased community income	0,08	3	0,24
Potential land for Agrotourism	0,14	4	0,56
Government-supported infrastructure	0,09	4	0,36
Attractive Wolobobo scenery	0,05	2	0,10
Total strengths			1,83
Weakness (W):			
Poor maintenance of tourist facilities	0,18	-4	-0,72
Frequent wildfires during dry seasons	0,13	-3	-0,39
Low competence of human resources	0,14	-3	-0,42
Total weaknesses			-1,53
Total Internal Factors			0,30

The SWOT matrix is employed subsequent to the classification of various possibilities stemming from internal and external factors. Its purpose is to facilitate the determination of analytical outcomes. Through this matrix, the external opportunities and threats confronting the company can be distinctly illustrated, while also being tailored to its limitations and strengths. Consequently, the matrix can yield four potential strategic alternatives, delineated as follows:

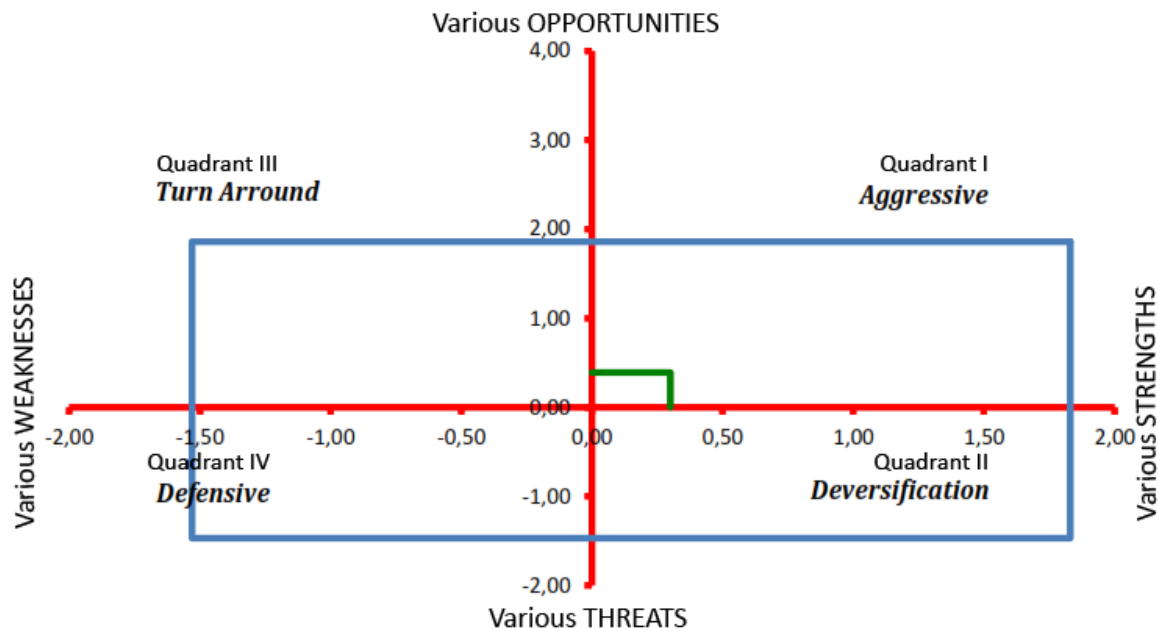


Figure 1. SWOT Matrix Quadrants

In Figure 1, which illustrates the SWOT quadrant matrix, coffee farmers in Walobobo (highlighted by the green box) appear to be situated in quadrant I, indicating a strong position with ample opportunities for development. As per Rangkuti (2013) opinion, being in quadrant I is highly advantageous. The company possesses numerous strengths and capabilities, enabling it to leverage current opportunities. In this scenario, the optimal solution is to pursue an aggressive growth-

oriented strategy. Another viewpoint presented by Pearce & Robinson (2008) suggests that a suitable strategy for quadrant I is concentric growth strategy through market development, product development, or a combination of both. According to this perspective, coffee farmers are in a very favorable condition. By utilizing the Strength (S) – Opportunity (O) strategy, continuous development is highly feasible.

Based on the SWOT analysis conducted, various strategies emerge for the development of coffee agrotourism potential in Turekisa Village, aiming to address external opportunities and threats while leveraging internal strengths and weaknesses effectively. One such strategy, Strategy SO, entails capitalizing on the strengths of Turekisa Village to exploit existing opportunities. This involves actions such as promoting the village across social media platforms like Facebook, Instagram, WhatsApp, and YouTube, along with establishing an online presence on the website <https://www.nativeindonesia.com/bukit-wolobobo>. Additionally, collaboration with travel agencies, restaurants, hotels, and other stakeholders is crucial for successful joint promotional efforts to attract visitors.

Strategy ST, on the other hand, focuses on addressing threats by utilizing internal strengths. Measures under this strategy include installing signboards directing visitors to Turekisa Village and emphasizing its advantageous hilly geographical location, offering panoramic views of coffee plantations and the scenic Wolobobo Hill from a distance. In Strategy WO, the emphasis lies on introducing diverse activities in Turekisa Village centered around coffee agrotourism to entice tourists. This includes setting up an Arabica coffee learning center equipped with necessary amenities, constructing traditional Lampung-style lodging facilities and meeting rooms, and educating the local community on the significance of supporting tourism for overall welfare enhancement through micro, small, and medium enterprises (MSMEs). Lastly, Strategy WT focuses on training locals to work in the tourism sector, establishing an internet network for effective promotion through social media, creating comprehensive location maps for tourists' convenience, and repairing damaged roads to ensure a comfortable experience for visitors. By implementing these strategies effectively, Turekisa Village can unlock its full potential in coffee agrotourism development while mitigating external threats and leveraging internal strengths for sustainable growth.

CONCLUSIONS

The development of a SWOT approach concerning the opportunities for community coffee as a coffee tourism destination, taking into account both local community and tourist perceptions, entails the formulation of development strategies as follows. Internally, factors influencing the development strategy of coffee agrotourism in Turekesa include extensive experience in marketing, cultivation, and strong government support, resulting in high-quality coffee products and tourist attractions. Externally, the development of coffee plantation agrotourism in Turekesa is influenced by the increasing annual influx of tourists, driven by growing interest in experiencing the natural beauty of Turekesa village and the improving infrastructure, including road construction and tourist facilities.

Efforts in developing coffee-based agrotourism while preserving local wisdom and involving the community include leveraging the strengths and addressing the weaknesses, opportunities, and challenges of agrotourism potential in Turekisa Village, Ngada Regency. The strengths lie in abundant natural resources such as beautiful landscapes, fertile soil, and abundant water, along with a friendly and open-minded local community, and adequate infrastructure. Weaknesses include long travel distances, low levels of education among the local population, and poorly maintained public facilities such as toilets and recreational areas. Opportunities arise from government-led road and access development, which accelerates agrotourism site development, while future challenges include the vast area, potential shift in livelihoods away from agriculture, and the need to manage tourist waste and garbage to preserve the scenic beauty of the area.

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