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Economic and environmental analysis of establishing coffee agrotourism in East Java, Indonesia

Abstract

This study aims to analyze the factors that influence coffee agrotourism in East Java. The research used quantitative descriptive which are used for the analysis was determined purposively, namely the area with coffee plantation areas. The locations used as research objects include 11 regencies including Banyuwangi, Jember, Lumajang, Pasuruan, Malang, Kediri, Blitar, Trenggalek, Madiun, Ngawi, and Magetan. The number of respondents in this study was 220, and each district was taken as many as 20 respondents. The data obtained as of 2022 were then analyzed using WarpPLS. 6.00. The results showed that the economic, social, environmental, and supporting factors positively influenced. In contrast, the inhibiting factors had a real negative impact on coffee agrotourism in East Java.

Keywords: Agrotourism; Coffee; Economics; Society; Environment; Coffee Plantation; Indonesia

JEL Classification: M10; M11; Q13; Q17

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1. Introduction

Development that is well planned and transparent and has an orientation to improve the community's welfare is sustainable and environmentally friendly. The results of this development are expected to impact people's lives positively (Canavan, 2019). Wise management of natural resources for tourism purposes, besides providing better community social and economic aspects. The tourism sector can encourage economic growth at the local, regional and national levels (Kim & Kim, 2020). In East Java, the coffee plantation area has almost reached approximately 110 thousand hectares, consisting of national government plantations, large private plantations, and smallholder plantations. The development of coffee plantations requires initiatives, strategies, and coordination between related institutions, excellent land resource management, cultivation technology, maintenance, and processing of coffee products and marketing (Zhang et al., 2019).

Agrotourism is an activity that utilizes agricultural areas with certain commodities that are the main attraction of visitors to agrotourism, which includes picking fruit, cultivation methods, processing products, to supporting facilities. Agrotourism has a positive impact on star fruit farmers. The number of product requests is increasing, production is increasing, selling prices are increasing, various product innovations are (Aklimawati, 2018). The development of agro-tourism destinations positively impacts economic activity and opens up new job opportunities for the community. The agricultural and tourism sectors are complementary activities that prioritize nature conservation and generate income (Navarro-Martínez et al., 2020). Agrotourism is developing sustainable tourism in various rural areas. Analyzing the strengths and weaknesses of agrotourism and the opportunities and threats between agriculture and rural tourism is sustainable development and development. The incredible natural atmosphere of the countryside, the harmony of the community, are still traditional has the attraction of supporting tourism in the country (Szalka & Tamándl, 2019).

This study aimed to analyze the economic, social, environmental factors, supporting factors, and inhibiting factors that affect coffee agrotourism in East Java, Indonesia.

2. Brief Literature Review

2.1. Economy

Tourism is the main economic activity that can significantly change people's lives. The tourism sector contributes to the economy of a region (Sthapit & Björk, 2019). Improving the development of agrotourism has contributed to sustainable economic growth (Grifell-Tatjé et al., 2018). Agrotourism increases household resilience in rural areas. Rural tourism includes crop arts, agricultural practices, wine tasting tours, picking vegetables, identification of plant and wildlife species. Cultural factors directly affect economic performance, development, and regional competitiveness. Destination challenges provide professional benefits in tourism (Elfiondri et al., 2021). Business cooperation is influenced by social networks (Navarro-Martínez et al., 2020). Aquaponics mastered well will be a better business opportunity in the future.

H1: The economy influences agro-tourism.

2.2. Social

Cultural factors are the most influential factors on tourism, followed by agriculture, nature, and social (Mitchell & Shannon, 2018). Tourism strategies can identify gaps in the socio-economic and political situation. Sustainable regional development will increase competitiveness. The new infrastructure for tourism has a positive impact (R. Zhang, 2021). With the same vision between government and community policies, the tourism potential in rural areas can be increased again (Nelson et al., 2021). Tourism development depends on the planning and implementation of policies (Supeni et al., 2019). In this case, corporate social responsibility (CSR) in the tourism sector has increased.

H2: Social influences agro-tourism.

2.3. Environment

An area becomes an attractive tourist spot because of its value, nature, culture, history, archaeology, biodiversity. The tourism sector with agriculture impacts economic growth (Nelson et al., 2021). Landscape development must sustainably encourage the agricultural sector towards tourism and environmental aesthetics. There is a significant relationship between biodiversity, tourist preferences, and biodiversity. Based on the anatomical analysis of tourism, it shows that Kutoharjo has adequate tourism facilities and infrastructure. The increasing number of tourists is a determining factor that affects ecosystems in protected areas. Competitiveness and opportunities for sustainable tourism development are primarily influenced by the preservation of environmental quality (Elfondri et al., 2021). Tourism visitors in the natural environment harm environmental sustainability (Pishghadam et al., 2020). Managing tourism will prevent negative impacts on the development of the tourism industry. PEWI is an ecological model used to facilitate understanding of science, landscape, and watershed management.

H3: Environment influences agrotourism.

2.4. Supporting factors

The development of tourism with easy-to-reach access will improve the quality of tourist objects. The tourism sector can always generate income, attract investment, increase job opportunities, change local communities better (T. Zhang et al., 2019). The development of the local economy, culture, quality of life is an alternative form of tourism. By utilizing the existing marketing potential, tourism in rural areas can be used as a mainstay in the village. It has tremendous tourism potential; it needs to be evaluated, and then a plan is made for its development. Tourism is an essential resource by creating opportunities in international markets (Walters et al., 2019). The construction of trade facilities is economically advantageous. Public policy plays a critical role in the ecosystem of entrepreneurship. The benefits generated by rural tourism and agro-tourism positively impact business success (Kim & Kim, 2020). Having many partners and local identities will invite tourists to visit it. Building and improving sustainable agriculture will open up more job opportunities and increase people's profits to increase their welfare.

H4: Supporting factors influence agrotourism.

2.5. Obstacle factor

The lack of community involvement causes a tendency to be conservative and still adhere to traditional values, which firmly rejects the development of the tourism industry in the area. The lack of professional staff in the management of tourism objects and the development program is still simple, resulting in less contribution from the tourism sector and an impact on the environment. Limited funds, human resources who lack competence in mastering foreign languages, resulting in promotional activities abroad being less than optimal. Strategic management operates in a particular environment to create a specific strategy (Grifell-Tatjé et al., 2018). The four functions of the landscape include agricultural production, ecosystem conservation, and human livelihoods. In Cyprus, environmental quality, water resources management, and rural facilities are essential in the agricultural sector. In addition to providing recreational values, it is also necessary to know who the target market is (Zhang et al., 2019). With a good strategy, historical buildings can be used to accommodate tourists. Recommended activities in agrotourism include garden walks, shopping, animal feeding, harvesting, and tasting fruit.

H5: Obstacle factor influences agrotourism.

3. Research Methods

The research used quantitative descriptive. The area used for the study was determined purposively, namely in the province of East Java and which has coffee plantation areas. The locations used as research objects include 11 regencies including Banyuwangi, Jember, Lumajang, Pasuruan, Malang, Kediri, Blitar, Trenggalek, Madiun, Ngawi, and Magetan. The number of respondents in this study was 220 respondents, and each district was taken as many as 20 respondents. The respondents were coffee farmers, coffee business actors, people living around coffee-based tourism locations, visitors and coffee consumers, and related agencies. The primary data obtained were then analyzed by WarpPLS. Availability of up-to-date software for nonlinear path analysis, such as WarpPLS software, allows e-collaborating researchers to consider nonlinearity when estimating the association coefficients between related variables.

4. Results and Discussion

From this research, the following results were obtained (Table 1).

Table 1:

The study results are based on data processing using warp pls

Hypothesis	Path	Path Coefficient	P Values	Standart of Error for Path Coefficient	The effect size for Path Coefficient	Sig.
H1	Economy agrotourism	0.252	<0.001	0.065	0.141	p>0.001 Significant (H1 accepted)
H2	Social agrotourism	0.140	0.018	0.066	0.055	p<0.018 Significant (H2 accepted)
H3	Environment agrotourism	0.242	<0.001	0.065	0.136	p<0.001 Significant (H3 accepted)
H4	Supporting factors agrotourism	0.321	<0.001	0.064	0.198	p<0.001 Significant (H4 accepted)
H5	Obstacle factor agrotourism	-0.214	<0.001	0.065	0.112	p<0.001 Significant (H5 accepted)

Source: Compiled by the authors

4.1. Economy

Based on the results of Warp analysis. PLS 6.0, the economic variable, has a significant positive effect on coffee agrotourism in East Java (Y) with a path coefficient value of 0.252 where p -value = $< 0.001 < 0.05$. This result shows that with the existence of this coffee agrotourism area and an increase in people's income, their standard of living also automatically increases. This condition is caused by the fact that more and more visitors to this agrotourism can provide additional income to the community, including selling processed products, souvenirs, and other products. This coffee agrotourism area also increases the absorption of local labour, where many activities can provide additional income (Elfiondri et al., 2021). Therefore, the impact on the economic aspect tends to be positive, namely increasing the level of welfare of people's lives. The local community's economy has experienced positive development due to a tourist village. Tourism is an effective economic tool for enhancing human development (Aklimawati, 2018).

4.2. Social

Based on the results of Warp analysis. PLS 6.0, the social variable, significantly positively affects coffee agrotourism in East Java (Y) with a path coefficient value of 0.140 where p -value = $0.018 < 0.05$. With the existence of a coffee agrotourism area in East Java, there are significant changes from the social aspect, including changes in self-confidence that are increasing. This situation is because people often communicate with visitors to become more confident in themselves because of the increased ability to communicate (Komariah et al., 2020). There is also an increasing sense of community tolerance, better understanding of kinship relations between communities, which also impacts security in society which is getting better (Navarro-Martinez et al., 2020). Social impact relates to the family and regional economy. Natural attractions and the socio-cultural environment in India attract tourists (Kim & Kim, 2020). However, the impact on socio-cultural life has a negative tendency. This is due to the culture from outside, which the tourists bring, affecting the local community's culture (Nelson et al., 2021).

4.3. Environment

Based on the results of Warp analysis. PLS 6.0, the economic variable, has a significant positive effect on coffee agrotourism in East Java (Y) with a path coefficient value of 0.242 where p -value = $< 0.001 < 0.05$. The existence of this coffee agrotourism, in addition to being able to provide a tremendous social and economic impact for the surrounding community, from the environmental aspect it can also have a good effect on the surrounding community who can anticipate the occurrence of untreated sewage by taking outstanding actions, especially in handling waste from the visitors. It separates waste by providing three landfills: metal, paper, and organic waste (Bhattacharya & Fayezi, 2021). Likewise, an element of education is given to visitors, reminding visitors that it is forbidden to doodle in any business if someone throws garbage out of place. It is feared that it will disrupt the natural preservation around this coffee agrotourism location. The positive impacts include village income, the interaction between local communities and tourists, increasing the intensity of cooperation, and agro-tourism waste (Navarro-Martinez et al., 2020). There are six categories in tourism management: environmental management,

economic management, and socio-cultural management. Lithuania is attractive to tourists because of its natural and cultural reserves, protected forests, agricultural areas, and agro parks (Canavan, 2019).

4.4. Supporting factors

Based on the results of Warp analysis. PLS 6.0, the supporting factors significantly positively affect coffee agrotourism in East Java (Y) with a path coefficient value of 0.321 where $p\text{-value} = < 0.001 < 0.05$. Most of the coffee farmers in the research area currently carry out their farming activities from their parents, so it can be said that they have good experience in cultivating coffee plants. The coffee development strategy in East Java to support agrotourism can be done by using superior seeds and increasing the knowledge and skills of farmers so that it can be helpful for farmers, especially those managed by farmer groups. For Robusta coffee, productivity needs to be increased, while for Arabica coffee, it is necessary to expand the planting area (Winarno et al., 2018).

The current infrastructure in rural areas is excellent, already paved, concreted, or using paving. Need improvement, especially around tourist sites (Canavan, 2019). The community around the location of the coffee tourism object is very supportive of the existence of this coffee agrotourism. This is indicated by the improvement of the residence of each resident, and part of the land is willing to be used for road widening, making it easier for visitors to enter the agrotourism location (Navarro-Martínez et al., 2020). The development of tourism in rural areas will encourage economic growth, add jobs, and improve the welfare of the local population (K. Zhang et al., 2019). Tourism has an economic dimension and a social, cultural, religious, political, sporting, and environmental dimension (Mitchell & Shannon, 2018). The tourism sector contributes and adds value to the national economy and positively impacts the stability of the domestic currency. Bornova offers potential ecotourism, rural tourism, and cultural tourism with many activities.

4.5. Obstacle factor

Based on the results of Warp analysis. PLS 6.0, the inhibiting factor, has a significant negative effect on coffee agrotourism in East Java (Y) with a path coefficient value of -0.214 where $p\text{-value} = < 0.001 < 0.05$. Coffee plants are plantation crops that flower and bear fruit depending on the season. In East Java, the peak of coffee harvest occurs from July to August, while the harvest period itself starts from May/June to August/September. Given the importance of coffee cultivation and routine maintenance, the function of shade plants for coffee plants must also be considered. In addition to depending on the season, agricultural products such as coffee also have bulky/voluminous properties, perish quickly, and are easily damaged, so handling coffee cherries requires special handling as well. The lack of public awareness makes conditions less conducive to coffee agrotourism (Quiñones-Ruiz, 2021). Therefore, the community around the agro-to-participate in agrodevelopment by providing counselling to take advantage of land or opportunities by making food stalls in the agrotourism area or selling souvenirs that can be sold to visitors are more affordable by tourists (Komariah et al., 2020). An unstable economy, a weak rupiah exchange rate, high prices for necessities, and falling incomes will significantly affect the tourism sector.

5. Conclusion

The study results showed that the economic, social, environmental, supporting factors had a real positive influence. In contrast, the inhibiting factors had a natural negative effect on coffee agrotourism in East Java. This agrotourism for the local community positively impacts increasing income, living standards, and increasing employment. The district also has increased self-confidence, communication skills, tolerance, better relationships between families, and better security. In addition, the environment is kept clean, and visitor waste management is preferable. Considering that agricultural products depend on the season and perishable properties, it is necessary to have better handling to become preferable.

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