

Agricultural Education Model Through Coffee Agrotourism at Sapit Farm (Case Study in Sapit Village, East Lombok, NTB)

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Abstract

The purpose of this study is to: (1) find out in detail the ins and outs of coffee agrotourism run by the "Sapit Farm" agrotourism in increasing tourist knowledge of coffee farming. (2) Find out the economic impacts caused by farming integrated with tourism, namely coffee agrotourism, with the example in this study being the "Sapit Farm" Agrotourism. This study uses a case study method by focusing on an in-depth study related to the "Sapit Farm" agrotourism, which is one way of approaching agricultural education for tourists who want to learn more about coffee agribusiness. The study yielded the following results: run by the "Sapit Farm" Agrotourism in Sapit Village is very effective in increasing participants' knowledge in understanding coffee farming. (2) In terms of income, the management of the "Sapit Farm" Agrotourism has received significant profits with income of up to Rp. 120,000,000 per year from the coffee bean harvest and the sale of seeds amounting to Rp. 75,000,000 per year.

Keywords: agrotourism, coffee, training.

INTRODUCTION

Indonesia has great potential for developing the tourism sector. According to the law of the Republic of Indonesia Number 10 of 2009 concerning tourism, tourism can improve the economy, create jobs, and eliminate poverty in communities around tourism locations. According to data, the country's foreign exchange earnings in 2023 will be US\$ 14 billion, or amounting to Rp. 218.4 trillion; this places tourism as the second foreign exchange earner after CPO (Crude Palm Oil) production. One type of tourism that is currently starting to become a unique attraction is agritourism. Agrotourism, also known as tourism with agricultural objects or defined as tourism activities that are located or located in agricultural areas in general [1]. In agritourism there are differences. with conventional tourism, because agrotourism is a series of tourism activities that utilize locations in the agricultural sector, including the beginning of production to the production process on various scales and systems with the aim of increasing knowledge, understanding, experience, and, at the same time, recreation on the theme of agricultural tourism. According to existing data, tourism has the potential to improve people's welfare, many regions around the world are developing this industry.

Agrotourism is one type of tourism that is quite popular with domestic and foreign tourists. One type of agrotourism that is in high demand is coffee agrotourism. With the requirement that coffee plants live at high altitudes and the topography of sloping hillsides with cool temperatures, it attracts many tourists. One of the agrotourism sites that is currently developing is the "Sapit Farm" agrotourism site located in East Lombok. Regency, West Nusa Tenggara Province. In 2018, the establishment of this agrotourism involved the management of 2.5 Ha of private land and 40 Ha of millennial youth farmer group land. The production capacity of the "Sapit Farm" Agrotourism in 2024 will increase by 1 tonne, which was previously 5 quintals in 2023. The types of coffee cultivated are mostly Arabica (Coffea

Arabica L.), and besides that, there is also a type of robusta coffee (*Coffea Canephora*). The "Sapit Farm" Agrotourism has also carried out agrotourism activities with the theme of Arabica and Robusta coffee cultivation education, which has been running since 2021. Most of the participants come from vocational high schools (SMK), students, and also the general public. The purpose of this study is to find out in detail how the ins and outs of coffee agritourism run by the "Sapit Farm" agrotourism in increasing tourist knowledge of coffee farming. And to find out the economic impacts caused by farming integrated with tourism, namely coffee agrotourism, with an example in this study being the "Sapit Farm" Agrotourism. So that it can be an alternative to sustainable agricultural management and become a new source of livelihood in the community that previously only focused on cultivating secondary crops where the farming business was full of risks and high price fluctuations. It can be one way to increase land use on landslide-prone sloping terrain. By maximising the use of forest edge land properly, farmers can participate in preserving nature with the concept of sustainable Arabica coffee farming with the concept of educational agrotourism.

METHOD

This study uses a case study method with a focus on an in-depth study related to the "Sapit Farm" agrotourism which is an agricultural education for tourists who want to know more about coffee agribusiness. This study was conducted in August - October 2024 with respondents being the managers of the "Sapit Farm" agrotourism and using an open-ended question guide that has been prepared in such a way by researchers to be able to obtain the widest possible information related to educational activities at the "Sapit Farm" agrotourism.

RESULT AND DISCUSSION

Conditions of the Research Area

Sapit Village is one of the oldest villages in East Lombok Regency. Sapit Village is located on the slopes of Mount Rinjani at an altitude of 700-1100 meters above sea level. When viewed from the potential, Sapit Village has a wealth of very diverse natural resources that are rarely owned by other areas. The village code for Sapit Regency is 52.03.16.2005, ranking 5th out of all villages in Suela District. The distance to Sapit Village, if using a motorbike, travel time from the sub-district town is around 15 (fifteen) minutes, if from the district town around 45 (forty-five) minutes, and from the provincial city around 1 hour 45 (one hour forty-five) minutes. Sapit Village is located on the slopes of Mount Rinjani, so the land is sloping and used for agriculture and plantations. One of the plantation commodities is coffee, avocado, coconut, and so on. In addition to being an agricultural and plantation area, Sapit Village has been known since the 1980s as a tourist destination based on agriculture. What is interesting is that the Lonely Planet website places Sapit Village as the second most beautiful village on the slopes of Mount Rinjani after Tete Batu Village. This is because the topography of the Sapit Village land is sloping land with a direct view of the Alas Strait; besides that, the use of land as agricultural land increases the impression of agrotourism to be even stronger [2].

The position of Sapit Village is bordered on the north side by Sembalun Village. Sembalun District, South side by Suela Village, Suela District, East side by Mekarsari Village, Suela District, West side by Bebidas Village, Wanasaba District. Sapit Village consists of 11 (eleven) hamlets, namely Pesugulan Hamlet, Sapit Hamlet, Gubuk Baru Hamlet, Batu Cangku Selatan Hamlet, Montong Kemong Barat

Hamlet, Montong Kemong Induk Hamlet, Batu Cangu Utara Hamlet, Batu Cangu Barat Hamlet, and Batu Pandang Hamlet. The center of the Village Government is located in Montong Kemong Hamlet [3]. For more details, the map of Sapit Village is depicted in Figure 1 below:

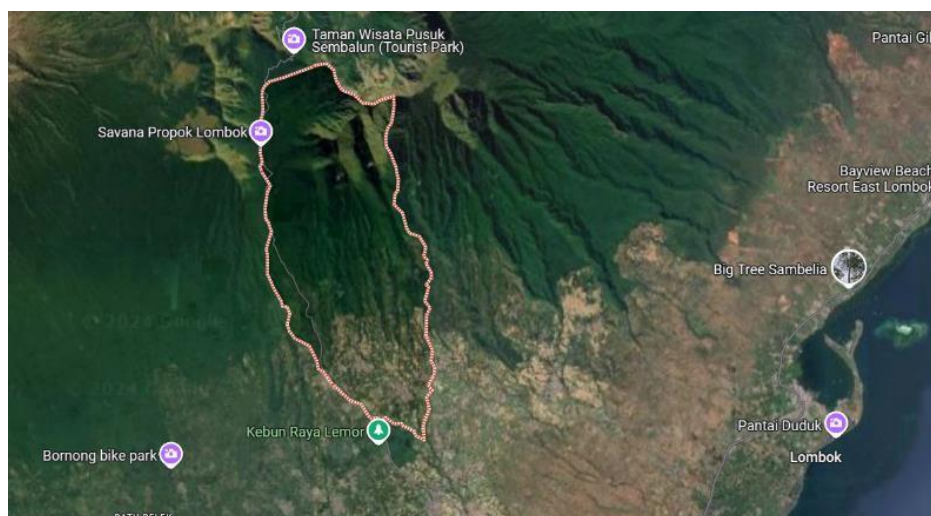


Figure 1. Map of Sapit Village (location points: -8.492130, 116.555523)

In Figure 1 it can be seen that most of the Sapit Village area is on the slopes of Mount Rinjani, which has good land potential so that the potential that can be developed is agriculture and plantations. Therefore, the selection of coffee commodities is the right choice for farmers who want to succeed in their farming efforts.

Socio-Economic Conditions of Sapit Village

According to data from the Sapit Village Government, the population of Sapit Village was 4,878 (four thousand eight hundred and seventy-eight) people in 2021. Of the total, the number of male residents is 2,031 (two thousand thirty-one) people, and the number of female residents is 2,029 (two thousand twenty-nine). Sapit Village is one of 99 tourism villages in West Nusa Tenggara Province. This village is located in Suela District, which is in East Lombok Regency. With an altitude of 1,100 meters above sea level, Sapit Village is one of the villages with a fairly cool temperature and is famous for its fresh air fields. Most foreign tourists who come to Lombok Island to visit Mount Rinjani stay in Sapit Village. Most of the residents work as farmers, and the community is still traditional, far from urban life; this is supported by the distance between Sapit Village and the district capital, which is quite far. Sapit Village's wealth and pristine natural landscape offer significant potential for tourism

development. Various tourist attractions have begun to be developed to attract tourists, both local and foreign tourists, especially in hill tourism objects, rice field terraces, various products and products of Village UMKM, agriculture, forest nature, camping grounds, and coffee shops. No less interesting are the historical relics, such as the remains of the Japanese pal in Sapit Village, as a form of historical tourism. Not only that, the daily activities of the local community are packaged into various tour packages that can then generate benefits for the local community, such as the art of weaving and playing traditional musical instruments offered to visiting tourists.



Figure 2. View of Mount Rinjani from Pal Jepang, Sapit Village [4]

The natural conditions are still pristine and the air is cool, making Sapit Village the right alternative for enjoying a holiday for visitors who are tired of carry out routines in the city.

Condition of Sapit Farm Institution

The "Sapit Farm" agrotourism has been established since 2017, at that time the owner named Agus Patrawijaya started his business with minimal knowledge related to coffee cultivation. However, over time the "Sapit Farm" agrotourism business has grown and currently the owner is often invited as a speaker to tell stories related to coffee agrotourism. Starting in 2021, many educational institutions have entrusted their students to learn coffee cultivation from the planting stage to the harvesting stage or processing coffee into contemporary drinks. In addition, there are also many tourists who want to get information related to the world of coffee, so as an owner with a vision to also help ground coffee throughout the country, he is enthusiastic about continuing to transfer knowledge to others who need it. With this enthusiasm, the "Sapit Farm" agrotourism continues to improve and complete the necessary tasks. One example is the expansion of the planting area which is currently still relatively limited. If in the past the owner of "Sapit Farm" started with 2.5 Ha

of land, but now by forming a millennial farmer group engaged in coffee cultivation, the coffee cultivation area has increased by 30 Ha specifically for Arabica coffee cultivation. According to [5], teamwork is a group that has individual efforts that can produce greater performance than the amount of input carried out individually. It is concluded that teamwork produces better performance than individual performance in an organization or company. With this theory, it can be said that the owner of "Sapit Farm" wants even greater Arabica coffee production performance so that cooperation can be carried out with external parties to increase coffee production. In this case, the millennial farmer group is working with "Sapit Farm" to increase coffee production by introducing coffee seeds that have been produced by "Sapit Farm". The following is a photo of the activities of millennial farmers in distributing coffee seeds



Figure 3. Millennial Farmer Members in Coffee Seed Distribution

With the increase in cooperation, it is expected to increase the network in increasing coffee production, especially Arabica coffee. So that in the end it will increase state revenue through exports that can meet international market demand, at the same time can also save the forest that has now been converted into horticultural agriculture which is vulnerable to floods and landslides because it is planted on the slopes of hills. According to [6] strengthens the theory related to coffee plants on the slopes of hills with a cultivation system without tillage and planting on slopes has been shown to reduce soil erosion significantly. Coffee plants thrive on steep slopes. These practices not only help maintain soil structure but also increase water retention in the soil, so that coffee plants can access moisture better.

Coffee Agrotourism Activities at Sapit Farm

Routine activities at "Sapit Farm" include cultivating coffee plants, maintaining them, and carrying them. Out good post-harvest treatment of coffee, and marketing coffee using digital marketing techniques or manually. The initial activity, namely cultivating coffee plants, is the initial activity when the "Sapit Farm" agrotourism is just running. There are several requirements in the coffee cultivation business [7]. Some of the requirements are related to seed quality, temperature, soil type, ecological conditions, topography and other supporting factors. Coffee plants take approximately 3 (three) years to develop from seed germination to first flowering and fruit production. Fruit The coffee tree is known as a cherry, and the seeds that develop inside it are used as the basic element for producing roasted and ground coffee, instant coffee, and coffee liquor. Well managed coffee trees can be productive for up to 80 (eighty) years or more, but the economic life of a coffee plantation is rarely more than 30 (thirty) years.

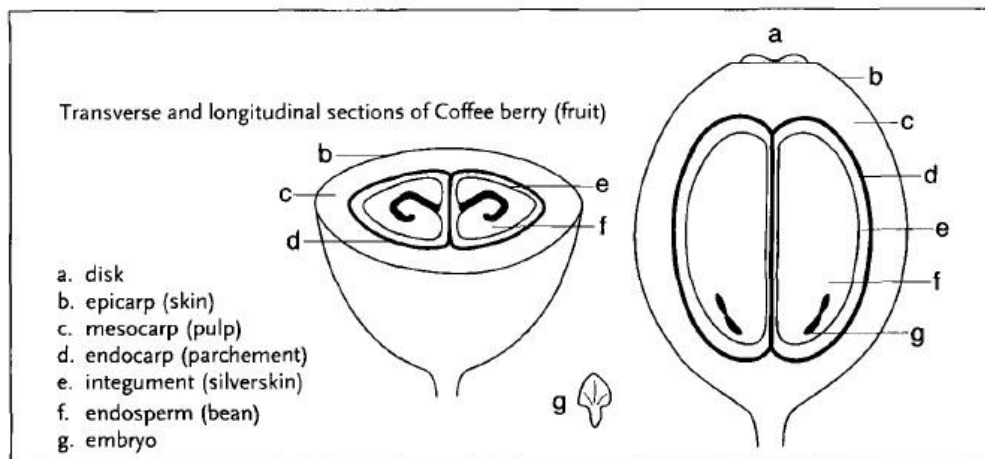


Figure 4. Transverse and Longitudinal Sections of Coffee Fruit [7]

It is discussed that good coffee beans consist of 7 (seven) parts which have functions in each part [7]. Some of the requirements are being at an altitude of 700 - 1100 meters above sea level, with an average temperature of 23°C and andosol soil type with characteristics of dark colour, loose, sandy clay texture to sandy clay and lots of contains organic materials. The following describes the growth process of Arabica coffee sprouts or seeds.

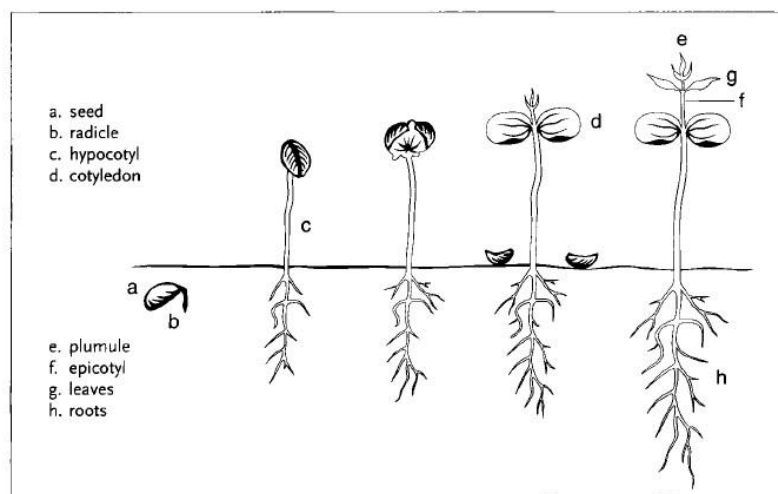


Figure 5. Coffee plant germination process [7]

The "Sapit Farm" agrotourism has been carrying out Arabica coffee cultivation activities in accordance with existing theories. Starting from selecting appropriate seeds to carrying out good post-harvest processes to produce ground coffee products which are currently the leading products of "Sapit Farm" agrotourism. Here are some pictures related to the activities of the "Sapit Farm" management in carrying out coffee cultivation.



Figure 6. Coffee Seedling Nursery at Sapit Farm location

An important step in the coffee cultivation process is proper and correct coffee cultivation. This step greatly affects the growth and productivity of coffee plants in the long term. By understanding the basic principles of proper seeding, farmers can produce healthy and strong coffee seedlings which in turn will produce high quality coffee harvests. The first very important step is to choose quality coffee seeds. Seeds must come from healthy and productive coffee plants, free from pests and diseases, and have uniform shapes and sizes. Quality seeds will provide a strong foundation for successful plant growth in the future. The second step is to sow the seeds. When sowing, make sure the temperature and planting media are in accordance with the needs of the coffee plant.



Figure 7. Sapit Farm Manager cultivates arabica coffee

The management of the "Sapit Farm" has been instrumental in increasing the commodity of Arabica coffee. agrotourism conducts nursery activities. This is done to meet the demand of coffee farmers who want to plant Arabica coffee on their land. In addition, it is also to expand access to planting coffee which will have an impact on increasing Arabica coffee production. Preparation of the right planting media is very important for the success of coffee nurseries. Use a mixture of soil with sufficient organic materials, such as compost or manure, to improve soil structure and provide the initial nutrients needed by coffee seedlings.



Figure 8. Seedling care by Sapit Farm Manager

Maintaining the quality of coffee seeds requires maximum care. This activity requires qualified skills and excellent knowledge of how to care for excellent coffee seeds. After the seeds reach a sufficient size and have strong enough leaves, the seeds can be planted in the mainland. Make sure to prepare the land well, loosen the soil, and provide the necessary fertilizer before planting the seeds. The next step is to care for the coffee plants that have been planted in the garden so that later you can enjoy the harvest results when the plants are around 2 (two) years old.



Figure 9. Condition of newly planted coffee plants on Sapit Farm land

Picking usually occurs after the coffee fruit reaches ripeness, when the coffee plant is 2.5 to 3 years old. The colour of the fruit skin changes when it is ripe; dark green fruit is a sign that it is still young, yellow fruit is a sign that it is half ripe, and red fruit is a sign that the coffee fruit is fully ripe. To achieve high-quality results, pick the coffee fruit when fully ripe and ensure proper care after harvest [8]. The next process is drying using sunlight until the fruit flesh dries and comes off. Only the coffee beans remain for further processing.



Figure 10. Coffee Bean Drying Process

The process is done manually because there is no harvesting tool with a machine; besides that, it also maintains the sustainability of a healthy harvesting process because the fruit chosen is ripe fruit. The pickers take this very seriously and have received prior training on proper coffee harvesting techniques.

Coffee Farming Education Process at Sapit Farm

The "Sapit Farm" Agrotourism has been conducting agricultural education activities since 2021. Many vocational schools (equivalent to high school) come to collaborate in coffee cultivation practices at Sapit Farm. According to the management of the educational institution, the "Sapit Farm" agrotourism has been considered successful in cultivating Arabica and Robusta coffee in Sapit Village. This is proven by the existence of a continuous coffee nursery center and also a cultivation pattern that has been proven to produce good quality coffee beans, as well as the post-harvest process carried out in one place (workshop) so that it is easy to observe and learn directly. The following will explain several agricultural education activities related to the cultivation of Arabica and Robusta coffee and post-harvest processing.



1



2



3



4



5



6



7



8



9



10



11

Image caption:

1. The owner of the "Sapit Farm" agrotourism is explaining the post-harvest coffee management process.
2. The owner of the "Sapit Farm" agrotourism is explaining the basic concept of the world of coffee cultivation to students.
3. The results of the roasting process and coffee roasting tools are presented.
4. Learning activities at the "Sapit Farm." Agrotourism also includes coffee cultivation.
5. SMK Agribusiness majors are studying coffee cultivation at "Sapit Farm."
6. The owner of the "Sapit Farm" agrotourism is explaining the types of coffee to students. Faculty of Agriculture, University of Mataram.
7. Ready-to-sell coffee products "Sapit Farm."
8. The location is in front of the "Sapit Farm" agrotourism facility.
9. One of the training participants learns how to serve Arabica coffee correctly.
10. Roasting coffee beans prepares them for processing into coffee powder.
11. One of the participants in the coffee management training is caring for coffee plants in the "Sapit" garden farm.

The "Sapit Farm" agrotourism primarily focuses on educational activities, promoting coffee as a highly profitable plant. The implementation of the "Sapit Farm" agrotourism has had a socio-economic impact, as many parties are now interested in learning about coffee farming management from an educational perspective. Even vocational high schools include practicums in coffee cultivation as a compulsory subject at the school. There are also students from universities coming to learn about coffee farming at the "Sapit Farm" agrotourism, such as from the University of Mataram and several other private universities. In addition to education, the social impact that occurs is the increasing interest of farmers to plant coffee plants on their land. Currently, many farmers still cultivate horticultural plants that tend to be complicated in their maintenance. In addition, the position of the land on the hillside that is included in the Social Forestry Area also has its own regulations. that farmers who manage social forestry land in the form of HKm (community forest) must plant trees as much as possible as an effort to prevent the conversion of forest functions that were previously rainwater absorption areas. According to the Regulation of the Minister of Environment and Forestry Number P.83 / MENLHK / SETJEN / KUM.1 / 10/2016 concerning Social Forestry, Social Forestry is a sustainable forest management system implemented in state forest areas or customary forests/forests implemented by local communities or customary law communities as the main actors to improve their welfare, environmental balance, and socio-cultural dynamics in the form of Village Forests, Community Forests, People's Plantation Forests, People's Forests, Customary Forests, and Forestry Partnerships [9]. So that the balance of nature with the presence of coffee plants can be realized, especially in preventing erosion on the hillsides in Sapit Village. Coffee farming on hillsides using both alley techniques and without alley techniques can prevent erosion [6]. Therefore, coffee farming is very good to be applied in production forest areas that have been used by farmers as social forestry.

Economically, the income of the agrotourism manager "Sapit Farm" feels a fairly good economic impact. From the harvest, the agrotourism manager "Sapit Farm" gets a harvest of 1 ton per year from the land managed. With a price range of Rp. 120,000, - per kilogram, the total income from the manager is Rp. 120,000,000, - for 1 (one) year, namely 2024. The second income comes from the sale

of seedlings, where currently a total of 60,000 coffee seedlings have been sold since 2021. With a selling price of IDR 5,000 per tree, the total income of the manager is IDR 300,000,000. during the duration of 4 (four) years. In addition, the manager also gets extra income from purchases and sales from farmers who have been assisted so far. In total, there are 50 (fifty) farmers who have purchased seeds and at the same time been trained in terms of coffee care. The coffee farming business has a B/C ratio of 3.6 which is more than 1, meaning that the coffee farming business, especially the Arabica type, has very good business prospects to be developed [10].

CONCLUSION

The agricultural education model through coffee agrotourism in this case is run by the "Sapit Farm." Agrotourism in Sapit Village is very effective in increasing participants' knowledge in understanding coffee farming. In terms of income, the management of the "Sapit Farm" agrotourism has gained significant profits, with revenues up to IDR 120,000,000 per year from the coffee bean harvest and the sale of seeds amounting to IDR 75,000,000 per year.

REKOMENDATIONS

The coffee agrotourism development model is very appropriate to be implemented to increase public knowledge about coffee cultivation and its economic value and is included in agricultural education. The coffee cultivation model is also suitable for duplication in other areas that have similar topographic conditions to Sapit Village to be able to develop coffee plants that will be able to help ecologically and prevent erosion compared to if farmers cultivate horticultural crops or corn on sloping land that has an altitude of more than 300 meters above sea level.

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