

OPTIMIZING NATURAL RESOURCE MANAGEMENT IN REALIZING A SUSTAINABLE TOURISM VILLAGE IN TAJURHALANG VILLAGE

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Abstract

This *Tajurhalang Village* is a pilot village located in a green hilly area in Cijeruk District, Bogor Regency, West Java. *Tajurhalang Village* has several potentials, including waste bank, maggot and catfish cultivation, herbal plants, waterfall and camping ground. The purpose of this activity is to make *Tajurhalang Tourism Village* a fostered village so that the sustainability of the programme is maintained. The method used was the preparation stage through socialisation of activities, implementation of activities, supervision and reporting of activities. The focus of the programme included waste management, cultivation of catfish and maggot through aquaponic system, and production of *pihong* herbal drink as welcome drink. Key achievements included the discovery of tourism potential, improvement of facilities and amenities, and the establishment of a tourism village management institution. Training and branding through social media Tiktok and marketplace Tokopedia, improving human resource capacity and promotion of local products are expected to increase the number of visitors and community income. The evaluation showed that with institutional support and community participation, *Tajurhalang Village* has the potential to become an independent and sustainable tourism village.

Keywords: tourism village; waste bank; maggot catfish; *pihong*; aquaponics

I. INTRODUCTION

The development of tourist villages needs to be considered with a commitment between the government, village officials, community leaders, and village organizations to be made into tourist villages. Efforts to increase village income, especially tourist villages, are by empowering the natural potential owned by the town (Mistriani et al., 2021). Empowerment of natural potential in a sustainable manner is to manage the potential to become a tourist attraction which is expected to increase village income, to increase the income of village communities automatically. (Supriyadi et al., 2021)

Tajurhalang Village is a pioneer village located in the green hills of Cijeruk District, Bogor Regency, West Java. Through this pilot category, Tajurhalang Village continues to strive to achieve equality with developed and more advanced villages. Tajurhalang Village is located at the foot of Mount Salak with an area of 390,527 Ha with an elevation of 600-700 meters above sea level, a rainfall level of 3,328 mm per second with an average maximum air temperature of 23 C and a minimum of 9 C, and is divided into 3 hamlets, 6 Neighborhood Units (RW), and 22 Neighborhood Units

(RT). The boundaries of Tajurhalang Village are to the north bordering Palangsari Village, to the east bordering Tanjungsari Village, to the south bordering Mount Halimun Salak National Park, and to the west bordering Sukaharja Village. The total population of Tajurhalang Village is 9,429 people consisting of 4,916 men and 4,513 women with 3,217 heads of families.

Tajurhalang Village has several potentials, including waste banks, maggot, and catfish cultivation, herbal plants, waterfalls, and camping grounds. In addition to the potential that exists in Tajurhalang Village, there are still many problems faced, including (1) waste banks, maggot cultivation, and catfish pond land that has not been managed optimally. Waste banks not only make the environment clean but can also increase economic value, empower the community, and cultivate maggot as the right solution to overcome these problems as a substitute for high-protein catfish feed (Auliani, 2020). (2) Seeds and cultivation of herbal plants managed by the community have not been maximized into a derivative product. Herbal plants have various benefits that are good for health, such as curing various types of diseases and increasing the body's immunity (Sullaida et al., 2023). (3) Tourism marketing

and branding in Tajurhalang Village has not been maximized digitally. The manager of a tourist village is expected to be able to utilize information and communication technology in an effort to improve the branding of tourism products, one of which is by using digital-based marketing approach method (Kemenparekraf, 2021). (4) The people of Tajurhalang Village have not realized the great tourism potential that can be developed, as well as the lack of commitment from the Tourism Awareness Groups (Pokdarwis) in tourism development in the area. Pokdarwis has a role as a driver of tourism awareness in the tourism area environment to increase understanding of tourism (Hetamiet al., 2022), increase the role of the community in the development of tourist villages, and develop the development of tourist villages (Ismowati et al., 2022).

Based on the observation results of the Student Organization Capacity Strengthening Program of the Student Executive Board of the Faculty of Economics and Business, Pakuan University, there is still lack of public knowledge about tourism potential in the development of existing potentials, such as waste bank management, maggot cultivation, catfish. The main goal in exploring the potential of the village as creative and independent agro-tourism village is through training and technical guidance regarding the development of agro-tourism villages and developing and empowering the Tajurhalang Village Community.

People have great hopes for positive changes that can be felt in various aspects of life. The agro edu tourism village that uses education and agricultural tourism is expected to be one of the solutions to improve economic welfare, education, and environmental sustainability in Tajurhalang Village. From an economic point of view, the community hopes that agro edu tourism can open new jobs to increase the income of residents. The large number of tourists who come can create business opportunities, ranging from lodging to local products that can be marketed. This can provide significant economic results for the local population, reduce the unemployment rate, and improve people's living standards.

Based on the aspect of education, agro-tourism is expected to be an interesting and effective means of learning, especially for the younger generation with learning methods that are in direct contact with nature, as well as real practices in the field, such as learning about the importance of protecting the environment, and sustainable agriculture.

II. METHOD

Community services activities carried out by the PPK Ormawa BEM FEB Pakuan University team focus on community empowerment and tourism village development. The method of implementing this activity is to explore the potential of the village as an agro edu

tourism village through various trainings and technical guidance.

Table 1. Identify Problems And Solution

No	Problem	Solution
1.	Waste management, maggot cultivation, and catfish are not yet optimal	Education and training related to waste sorting, maggot cultivation, and catfish through aquaponics systems by utilizing catfish ammonia water
2.	The management of seedlings and cultivation of herbal plants as derivative products has not been maximized	Creating beverage products and welcome drinks from herbal plants
3.	Digital tourism marketing and branding have not been maximized	Training on product marketing systems and tourism promotion through Tiktok social media and Tokopedia marketplace
4.	Lack of awareness and commitment of the community and the Tourism Awareness Group (POKDARWIS) in the development of tourism villages	Procurement of technical guidance on understanding and skills in village development and development

The stages carried out in this community service program include, the preparation stage, the implementation stage, the supervision, and reporting stage. The preparation stage was carried out socialization of the implementation of activities in Tajurhalang Village. The implementation stage includes the revitalization of the waste bank and the procurement of maggot and catfish cultivation through aquaponics systems, education on maggot and catfish cultivation, technical guidance on waste sorting and management. The supervision and reporting stage includes monitoring, evaluation, and reporting on the preparation of the final report.

III. RESULTS AND DISCUSSION

The community service program activities carried out have the goal of increasing the potential of natural resources owned by Tajurhalang Village so that it becomes a tourist village by optimizing waste management, catfish farming, and maggot cultivation through an aquaponics system. Another goal is to produce drinks from pihong herbs as a welcome drink for tourism villages to promote and strengthen local commodities and increase the economic income of the people of Tajurhalang Village through Tik Tok social media and the Tokopedia marketplace as a way to market products and utilize buying and selling platforms.

The implementation of the community service program in Tajurhalang Village, Cijeruk District, Bogor Regency, West Java resulted in nine main things, namely the discovery of natural resource potential and economic activities to support the development of tourist villages; development of physical facilities, facilities, completeness, attractiveness, and comfort for visitors; produced the institution of tourism village management; increasing the capacity of natural resources for tourism village managers through various trainings and technical guidance held; launching a tourism village with branding according to superior potential; increasing the number of visitors and people's income; improvement of soft skills of the implementation team; the support of the village to the implementation team; increasing the capacity of student organizations.

The development of tourism villages utilizes the potential of natural resources and economic activities as a support to achieve optimal goals. The main focus in the development of this tourist village is on the management of waste banks, maggot and catfish cultivation, and herbal plants. The management of the waste bank is carried out to increase environmental awareness of the surrounding community, in addition, the cultivation of maggots and catfish using an aquaponics system is expected to meet the food needs of the community and as an education for visitors to tourist villages. The method of measuring the success of this achievement involves documentation of objects in tourist villages such as the construction of waste bank management sites and maggot cultivation. An evaluation is also carried out on the economic activities of the community. Active participation from local communities is very important for the sustainability of tourism villages, such as training and education on natural resource management so that the community can benefit from the innovations implemented.

The management of tourism villages in Tajurhalang Village is supported by institutions formed to manage tourism potential effectively. The main purpose of the establishment of this institution is to create an organizational structure that is responsible for the management and development of tourism potential in Tajurhalang Village. Tourism The development of physical facilities, facilities, completeness, attractions, and comfort for visitors is the main goal in building innovative educational and agro-tourism tourist attractions. This place will integrate catfish cultivation with an aquaponics system that not only aims to produce quality cultivation products but also as an education for visitors about the principles of sustainable agriculture. The waste bank in Tajurhalang Village will be empowered as a place for education and maggot cultivation in teaching the importance of effective waste management and the benefits of waste recycling for the environment.

The measurement of this achievement is carried out by documenting the facilities built, as well as the evaluation of the facilities and infrastructure that have been formed. Documentation was carried out by recording physical progress such as the development of infrastructure for catfish cultivation with an aquaponic system, and measuring the effectiveness of the waste bank as a place for education and maggot cultivation. Periodic monitoring of water quality and catfish cultivation conditions will be carried out to ensure the success of the aquaponics system in supporting educational activities that can be carried out, such as guided tours of the aquaponics process and practical demonstrations regarding waste banks. The management of tourism villages in Tajurhalang Village is supported by institutions formed to manage tourism potential effectively. The main purpose of the establishment of this institution is to create an organizational structure that is responsible for the management and development of tourism potential in Tajurhalang Village. The Tourism Awareness Group (POKDARWIS) has a role as the main driver in increasing public awareness and participation in tourism development efforts. As part of the institutional structure, Pokdarwis is tasked with formulating tourism development policies or strategies that are by the potential of Tajurhalang Village, building a network of cooperation with several related partners, and ensuring that the management of natural resources and local culture is carried out sustainably, thus, the existence of tourism village management institutions, especially Pokdarwis, is not only as a coordinator but also as the main driver to make the Village Tajurhalang as a sustainable tourist village.

The capacity of human resources for tourism managers can be increased through various trainings and technical guidance held. Currently, there is no clear strategy to develop the abilities and skills of tourism managers in helping the community understands and apply the principles of tourism management to optimize the natural and aquaculture potential in Tajurhalang Village. Training can cover various aspects, from tourist destination management, marketing, and promotion, providing periodic technical guidance, to environmentally friendly cultivation techniques, such as aquaponics and waste bank management. The increase in the capacity of human resources in tourism management is expected to provide real benefits for the community in the form of increasing tourist attraction and economic sustainability of the village.

Launching a tourism village with branding according to superior potential is one way that can be used to form an image in an effort to maintain the sustainability of the tourism village through a marketing system. Branding can be a differentiating strategy or identity of a product, including tourism products (Palupiningtyas et al., 2021).



Fig. 1 Pihong Herbal Tea

The digital-based marketing approach method is indispensable in helping the tourism branding process. One of the potential herbal plants found in Tajurhalang Village is Pihong (*Impatiens balsamic L.*) so it can be produced as a drink and a welcome drink of Tajurhalang Tourism Village. Marketing based on the branding of Tajurhalang Tourism in the form of beverage products and welcome drinks of pihong herbal plants is carried out by conducting training related to the product marketing system and tourism promotion, through TikTok social media and the Tokopedia marketplace. The purpose of marketing is to promote and strengthen local commodities and increase the economic income of the community in Tajurhalang Village.



Fig. 1 Waste Bank

The number of visitors and community income in Tajurhalang Village can be increased through agro-edu tourism by making it advanced and independent tourism village. Currently, the number of tourists in Tajurhalang Village is still not optimal, therefore, efforts to increase the number of visitors by 10% through agro-edu tourism in Tajurhalang are very necessary. Through agro-edu tourism, visitors can learn directly about aquaponics techniques for catfish cultivation and the benefits of waste bank management. These measures are expected not only to increase tourist visits, but also to bring positive results to economic welfare, education, and environmental sustainability, so that Tajurhalang Village can develop into more an advanced and independent tourist village.

The soft skills of the implementation team still need to be improved, especially in terms of making journals, books, and derivative products, so that journals and books are published, as well as the development of derivative products. Improving communication, cooperation, leadership, and a problem-solving skills can also be done as a way to approach the community, thus, productivity and quality of teamwork can be significantly increased to achieve the success of the Tajurhalang Village development program.



Fig. 3 Training provided by the PPK team

The village's support to the implementation team can be shown by evaluating the programs that have been implemented. The village facilitates intense coordination and communication between the Ormawa PPK implementation team and the village and community officials. This can be done through socialization meetings, technical guidance, and training. The village together with the PPK ORMAWA implementation team evaluated the programs that have been implemented to help maintain and develop the results of the programs carried out.

After the implementation of the program, location monitoring will be carried out and Tajurhalang Tourism Village will be made as fostered a village, therefore, training and technical guidance for the development of agro-edu tourism villages can strengthen social ties and active participation of the community in the development of tourism and local products, especially in Tajurhalang Village.

IV. CONCLUSIONS

The implementation of the community service program in Tajurhalang Village has succeeded in achieving several main results, including increasing the potential of a village natural resources, developing physical facilities and tourist facilities, and strengthening human and institutional capacity. Education on the management of waste banks, maggot, and catfish cultivation using aquaponics systems, and the use of pihong herbs as a village derivative products show significant progress in tourism management and development. This success is also realized through effective digital branding with the marketing of tourism products through TikTok social media and the Tokopedia marketplace which can increase the number of visitors and people's income.

This program also faces several shortcomings, such as strengthening the soft skills of the implementation team and the development of derivative products that are still in the early stages, more sustainable support from the community and local institutions that still need to be improved to insure long-term success.

Further development activities can be directed to improving the quality of products and tourism experiences, as well as further development of training and technical guidance for the community and the implementation team. Further research on the effectiveness of aquaponics systems and the diversification of herbal plant-based products can also be a priority. Strengthening digital branding and marketing along with deeper involvement from the community and local partners is very important to make Tajurhalang Village more advanced, independent, and sustainable tourist destination.

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