



Implementation of Sustainable Geotourism in Teuweul Honeybee Farming MSMEs in Margawindu Sumedang District

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Abstract: Margawindu Village in Sumedang Regency possesses considerable geotourism potential along with a locally cultivated honeybee product known as Teuweul honey. However, this potential has not yet been optimally integrated into the development of sustainable educational tourism. This community service program aims to implement sustainable geotourism by empowering local MSMEs engaged in Teuweul honey beekeeping through a participatory and community-based tourism approach. The method involved field observations, focus group discussions, thematic training, mentoring, and participatory evaluation followed by strategic recommendations. The results indicated a significant increase in community capacity in terms of environmental conservation and tourism interpretation, the rebranding of Teuweul honey with strong local identity, and the development of an educational tour package titled "From Hive to Nature" that combines ecological, economic, and educational values. Despite existing challenges such as infrastructure limitations and the need for digital marketing skills, the program successfully laid the foundation for an inclusive and locally driven sustainable geotourism model. Continued cross-sector collaboration and stakeholder engagement are essential to ensure the program's long-term sustainability.

Keywords: Community Service, Environmental Education, Geotourism, MSMEs, Teuweul Honey.

Introduction

The development approach rooted in local strengths is now a key strategy for promoting sustainable community well-being. For example, Margawindu Village in Sumedang Regency holds significant potential for natural resources and geotourism, but it has not been fully optimized. One of the village's flagship products is honey from the local Teuweul bee species, which has been cultivated by the community through the micro, small, and medium enterprise (MSMEs) scheme (Egbert, 2025; Munambar et al., 2024; Wijaya et al., 2025). Nevertheless, the development of this business still faces various obstacles, ranging from limitations in value-added packaging to the lack of integration of this potential into

educational and environmental conservation-based tourism activities (Evangelique et al., 2025; Patilaiya et al., 2025; Perdana et al., 2025; Putri, 2021).

As sustainable geotourism approaches evolve, new opportunities are emerging that combine geological conservation with learning-based tourism and citizen participation. Geotourism is not only oriented toward the physical exploration of nature, but also toward a scientific understanding of the environment and the strengthening of local communities' economies through their active involvement (Mankiw, 2022; Sari et al., 2025). This is very suitable for the characteristics of Margawindu Village, which has a hilly landscape, natural vegetation cover, and traditional beekeeping practices that have the potential to be developed as an educational tourism destination.

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This community service activity is designed to support the transformation of Teuweul bee farming MSMEs so that they can be integrated into a sustainable geotourism framework. The approach used is participatory and community-based tourism, which not only focuses on increasing the business capacity of the community but also addresses strategic aspects such as tourism promotion, educational training, and holistic environmental conservation. Previous studies have proven that direct community involvement in local tourism management can improve living standards, strengthen cultural identity, and preserve ecosystem sustainability (Elpisah, 2023; Nurjaya, 2022; Winatha et al., 2025; Zaki et al., 2022). Based on this, it is hoped that this activity will generate a geowisata development model that not only highlights local wealth as a tourist attraction but also provides concrete social, ecological, and economic benefits for the residents of Margawindu Village.

Method

This service was carried out using a participatory approach based on community needs, with the aim of synergizing the local potential of Teuweul honey SMEs with the concept of sustainable geotourism. The activity lasted for three months and was divided into five main stages:

1. Observation and Potential Mapping

The initial stage involved direct field observation to identify geographical potential, ecosystem characteristics, and the current conditions of honeybee cultivation efforts. Tim also conducted in-depth interviews with local stakeholders such as community leaders, MSMEs actors, and village officials, in order to gain a comprehensive understanding of existing strengths, weaknesses, and development opportunities (Qiaoyu et al., 2024).

2. Problem Identification and Solution Determination

Through focus group discussions, various issues such as limited market access, low product value addition, and the lack of integration between beekeeping and tourism potential were successfully identified. This discussion then became the basis for developing contextual and applicable joint solutions (Sakib, 2022).

3. Training and Knowledge Transfer

A series of trainings were conducted to enhance community capacity, including:

- a. Educational Geotourism Training, which introduced the concept of geotourism and how to package beekeeping activities as educational content for tourists.

- b. Product Packaging and Branding Training, to increase the selling value of Teuweul honey with environmentally friendly packaging designs that represent local identity.
- c. Local Tour Guide Training, to develop village cadres capable of presenting environmental narratives, geological diversity, and beekeeping culture in an engaging manner.

4. Geotourism Concept Implementation Assistance

Post-training, intensive mentoring is provided to achieve real integration between MSMEs and tourism activities. This activity includes planning tourist routes, creating interpretive boards, and developing tourist narratives that reflect educational, conservation, and community participation values (Egbert, 2025).

5. Strategic Evaluation and Recommendations

The final stage involves a participatory monitoring and evaluation process through questionnaires and open discussions. The evaluation results serve as a reference in formulating strategic recommendations for the sustainability of MSMEs based on geotourism development in Margawindu (Gao et al., 2023).

Result and Discussion

The implementation of this service resulted in positive achievements in combining the practice of Teuweul honeybee cultivation with the concept of sustainable geotourism. These achievements are classified into four main categories:

1. Strengthening Citizen Capacity

A total of 25 participants attended training in this area, specifically young people from the village. The training materials include the basics of geotourism, conservation techniques, and skills for educating visitors. The increased ecological understanding was evident in the enthusiasm of the participants during the tour simulation, which effectively connected the natural landscape, honeybees, and the dynamics of village life (Alvianna et al., 2022; Miranti et al., 2023).



Figure 1. Strengthening Community Capacity
(Source: PKM Team Documents, 2025)

2. Rebranding Teuweul Honey Products

Before the activity, honey products were generally packaged without identity or narrative value. However, after the mentoring, a local brand was created, environmentally friendly packaging designs were developed, and product narratives were inspired by local wisdom. This initiative increases the added value of the product and strengthens the image of Teuweul honey as a regional specialty product rich in educational and ecological content.



Figure 2. Rebranding of Teuweul Honey Product
Source: PKM Team Document, 2025

3. Development of Educational Tourism Packages

Together with the community, a tourism route themed "From the Nest to Nature" was developed, including visits to a bee farm, an introduction to geological landscapes, honey harvesting experiences, and education on the importance of environmental sustainability. This package trial was conducted by a group of students and received positive feedback regarding its learning value and the originality of the tourism experience (Alamsyah et al., 2020; Wang et al., 2024).



Figure 3. Development of the Educational Tourism Package "From Nest to Nature"
Source: PKM Team Documents, 2025



Figure 4. Development of the Educational Tourism Package "From Nest to Nature"
Source: PKM Team Documents, 2025

4. Challenges and Opportunities for Improvement

Despite achieving encouraging results, several obstacles remain, such as the lack of supporting infrastructure and the need for further training in digital marketing and tourism group management.

To ensure the program's continuity, long-term collaboration is needed between local stakeholders, academics, and the private sector (Eko & Putranto, 2021; Thang & Thanh, 2023).

These findings support previous research by Winatha et al. (2025), which emphasized the importance of community-based edutourism models. Additionally, the collaboration between geotourism and MSMEs is considered capable of driving the village's circular economy without disrupting ecological balance (Sari et al., 2025).

Conclusion

The community service program implemented in Margawindu Village shows that combining the concepts of sustainable geotourism and the Teuweul honey MSMEs is a promising approach to local economic development based on natural potential. Through active community involvement, this program not only successfully raised environmental awareness and educational tourism skills but also added value to local products through rebranding and narratives based on local wisdom.

The educational tour package successfully highlighted the geological potential, bee ecosystem, and village culture into a unified experience of high educational value. This achievement opens up opportunities for the community to participate in tourism activities, whether as guides, producers, or service providers. However, to ensure the sustainability of this initiative, synergy between parties is needed, particularly in infrastructure improvements, advanced training, and the utilization of digital technology. Collaboration between the government, academics, business actors, and the local community is key for geotourism in Margawindu to grow independently, competitively, and sustainably.

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