



Pro-Environmental Behavior in Munduk Ecotourism Village Buleleng

Ni Nyoman Triyuni¹, Ni Putu Lianda Ayu Puspita², Putu Gita Suari Miranti³,
Ni Made Rai Sukmawati⁴, and I Putu Surya Anggana⁵

^{1,2,3,4} Tourism Department, Politeknik Negeri Bali, Bali, Indonesia

⁵ Tourism Department, Sekolah Tinggi Ilmu Sosial Politik Wira Bhakti, Bali Indonesia
triyuni@pnb.ac.id

Abstract. Developing environmental sustainability can be done through how people behave pro-environmentally, especially in the ecotourism destination. This research objective is to identify how the host behaves to be pro-environmental for preserving the environment. Munduk Ecotourism Village, located in Buleleng Regency, Bali. The study was analyzed using descriptive qualitative in-depth interviews with the head and the members of Pokdarwis (the tourism forum in the village). Research results show that understanding environmentally friendly aspects, including lifestyle conservation, land stewardship, social environmentalism, and environmental citizenship has been done through several activities that support environmental metal conservation. The activities carried out to conserve the environment include making rainwater harvesting wells, cooking classes, cultivating/ plowing, planting trees, collecting rubbish, educating programs for tourists and local people to consider pro-environmental behavior, and collaboration with researchers and the college.

Keywords: Conservation, Ecotourism, Pro-Environmental Behavior

1 Introduction

Tourism development in rural areas is still evolving. This is because several villages that are considered potential for development continue to make changes and create development models that are appropriate and do not harm the environment. To maintain natural conservation, it is essential to ensure environmental sustainability. Developing ecotourism can be achieved through various means, such as conservation, education, ethical practices, maintaining sustainability impacts, and, most importantly, ensuring that local people benefit (Chiutsi et al., 2011).

Ecotourism has several goals; the first is poverty alleviation, and the second is the conservation of natural resources (Surendran & Sekar, 2011). Since ecotourism has become one of the most developed and widespread sustainable development concepts in the world, developing countries like Indonesia, particularly Bali, hope to increase income through ecotourism. Ecotourism supports villages in practicing sustainable development, considering the negative consequences for nature that are often associated with tourism behavior in many activities. It is crucial to implement

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mitigation strategies to minimize the negative impact on the environment and encourage tourists and hosts to adopt pro-environmental behavior (Hindley & Font, 2018; Juvan & Dolnicar, 2014; Miller et al., 2010). Pro-environmental behaviors include reusing resources, using energy efficiently, behaving in a pro-nature manner, and acting in support of wildlife (Hughes et al., 2018).

The organization of the world economy aims to minimize, mitigate, and neutralize impacts to support environmental sustainability, ensuring that the environment remains stable under any conditions (Ones & Dilchert, 2012; Ekins, 2011). Ekins (2011) stated that environmental sustainability must be improved by policymakers and host communities. As a result of economic activities that utilize nature, significant problems arise. Nature must be protected from severe damage that affects every aspect of human life, including mortality, morbidity, migration, water/food security, and cultural and spiritual values (Ekins, 2011). Environmental sustainability needs to be maintained so that the needs of life can continue to be met fully (Moldan et al., 2012).

Pro-environmental behavior (PEB) reflects community concern and the need for involvement in environmental conservation (Choi & Kim, 2021), (Iyawe, 2019). Pro-environmental behavior consists of 17 items broken down into four indicators (Larson et al., 2015), (Hair et al., 2014): (1) lifestyle conservation, including consuming or buying eco-friendly products as a form of natural conservation; (2) land stewardship, such as researching wildlife and conducting wildlife monitoring; (3) social environmentalism (discussing environmental issues); and (4) environmental citizenship, such as writing papers on environmental problems. Previous research has mostly focused on pro-environmental behavior related to environmental knowledge and environmentally responsible behavior (Paço & Lavrador, 2017). Pro-environmental behavior in daily life (Halpenny, 2010) can also support environmental policies, especially in using energy efficiently, minimizing waste production, and acting sustainably while travelling (Geiger *et al.*, 2019; Steg & Vlek, 2009). PEB should be adopted in the tourism industry because implementing pro-environmental behavior can significantly reduce negative impacts on biodiversity, ecology, and climate change (Clayton et al., 2015).

Researchers have created a comprehensive model of PEB focusing on environmental management through community involvement (Zhang et al., 2020). Tourists who visit ecotourism villages often feel inclined to behave pro-environmentally if there is contextual support (Leung & Rosenthal, 2019). However, if tourists behave irresponsibly, it can damage the environment and further hinder the development of sustainable tourism (Qu et al., 2021; Liu et al., 2020). Pro-environmental behavior positively impacts the environment, exemplified by environmentally responsible actions. Such behavior can be practiced through various activities, such as disposing of rubbish properly and maintaining the ecology of ecotourism attractions.

This paper aims to identify how the host community engages in pro-environmental behavior to conserve the environment, including life conservation, land stewardship, social environmentalism, and environmental citizenship.

2 Methodology

This study is qualitative descriptive and the data was obtained through observation, documentation, and in-depth interviews of key informants who are involved in the development of Munduk ecotourism village, Buleleng regency. The data was analyzed using Miles and Huberman; data reduction, data display, concluding.

3 Result and Discussion

Munduk Village is highly suitable for development as a conservation-based ecotourism destination. Currently (2024), Munduk Village, with its various tourism activities, ranks among the top 100 tourist villages receiving the Indonesian Tourism Village Award (ADWI), having previously been in the top 500 in 2022. In 2023, it entered the top 300 category. The increase in ranking as a tourist village indicates that Munduk Village is highly regarded as a tourist destination, especially with tourists staying for 1-3 days. The dominant tourists who visit Munduk Village come from Europe, particularly France, Germany, and the Netherlands. However, the number of tourist visits is steadily increasing. Munduk Village features five major tourist attractions: Red Coral Waterfall, Lake Tamblingan, Golden Valley Waterfall, Mount Lesung, and Ulun Danu Temple Tamblingan. These attractions are well-maintained by the community. To ensure these sites remain appealing, tourism activities related to these attractions must prioritize environmental conservation.

Pro-environmental activities in Munduk Ecotourism Village strongly support environmental conservation. The environmental conditions reflect the community's concern for their surroundings. The state of conservation can be observed through the environment itself, as the community actively engages in maintaining it. Tourism-related activities in Munduk Ecotourism Village always prioritize environmental considerations. Pro-environmental behavior (Larson et al., 2015) has four main indicators: lifestyle conservation, land stewardship, social environmentalism, and environmental citizenship. Table 1 shows the tourism activities related to these four indicators of pro-environmental behavior in Munduk Ecotourism Village.

Table 1. Tourism activity in ecotourism Munduk Village

No	Conservation	Indicator	Activity
1	Life style Conservation	-Water Conservation - Consumption environmentally friendly products	Construction of rainwater harvesting wells Cooking Class
2	Land stewardship	Land conservation	Cultivating/ plowing Tree planting
3	Social environmentalism	Speaking or educating others about environmental issues	Educating program for tourists and local people to behave being pro-environment
4	Environmental citizenship	Doing research of environmental issue	Collaborating with researcher

3.1 Lifestyle Conservation

Lifestyle conservation involves activities related to conservation efforts, such as recycling, using water and energy efficiently, managing waste properly, and consuming sustainable products. In the context of tourism activities at Munduk Ecotourism Village, several initiatives focus on two main areas: water conservation and the consumption of environmentally friendly products. Water conservation is implemented through the construction of rainwater harvesting wells. Munduk Ecotourism Village is situated in a highland area with an average temperature of 22.6 degrees Celsius and receives rainfall almost throughout the month, providing the village with sufficient water. However, this rainfall has only begun to be utilized effectively since 2018. To maximize its benefits, it is essential to capture rainwater to prevent it from flowing directly down the hills. Water conservation efforts include building rainwater harvesting wells in collaboration with the IDEP Selaras Alam Foundation and Politeknik Negeri Bali. Currently, there are four rainwater harvesting wells. These wells demonstrate that Munduk Village genuinely cares about the environment and engages in pro-environmental behavior. This commitment to pro-environmental practices significantly supports Munduk Village as a conservation ecotourism destination. Additionally, water conservation is promoted through tree-planting initiatives. Pokdarwis Munduk Village encourages tourists to participate in conserving water by planting trees in several trekking areas. The goal of tree planting is to ensure that rainwater is retained by the tree roots, making it an effective alternative to water conservation as shown in Figure 1.



Figure 1. Rainwater catchment wells and tree planting
Source: Pokdarwis Munduk Village, 2024

The next tourism activity related to lifestyle conservation is the consumption of environmentally friendly products. In tourism activities in Munduk Village, Pokdarwis prepare a cooking class that invites tourists to prepare food starting from picking vegetables and then cooking Balinese style. This is done through cooking classes held in people's homes. They serve local specialty foods as a form of local food conservation. Tourists who visit are treated to local food as a form of conservation of local food, although restaurants are easy to find in Munduk village. However, Pokdarwis in handling tourists always prepares food and serves it in a very environmentally friendly manner as shown in Figure 2.



Figure 2. Cooking class

Source: Pokdarwis and observation results, 2024

3.2 Land Stewardship

Land Stewardship is land management related to community behavior in efforts to improve the quality of land habitat. Land stewardship is related to tree planting. Local land stewardship is an effort to improve the local natural environment (Larson et al., 2015). In connection with land stewardship in Munduk Ecotourism is carried out through tree planting. Pordarwis, who assigns tour guides to accompany tourists, urges them to plant trees when taking tourists on tourist activities such as trekking related to the forest. Apart from planting trees, tourists are invited to do plowing so that tourists understand that the traditional activity of plowing rice fields is still needed, this is done to maintain local values and local wisdom. The activities of planting trees and plowing fields are presented in Figure 3.



Figure 3. Tree planting and plowing activities

Source: Pokdarwis and observation, 2024

3.3 Social Environmentalism

Social Environmental is the behavior or actions of the community to participate in activities that address environmental issues (Larson et al., 2015). This can be implemented through efforts to socialize or educate other people about environmental issues. One of the activities carried out in tourism activities is speaking or educating others about environmental issues (Vaske & Kobrin, 2001). In Munduk Ecotourism Village, educating others is done by introducing traditional healing and collecting

rubbish with the tourists who visit the village and who are care or aware of conserving the environment as shown in Figure 4.



Figure 4. Healing and collecting rubbish as the social environmental
Source: Pokdarwis and Observation, 2024

3.4 Environmental Citizenship

Environmental Citizenship, citizens who care about the environment where citizens participate in the policy-making process related to environmental issues. To increase public knowledge about the environment, Munduk Ecotourism Village collaborates with researchers from various universities.

4 Conclusion

The research findings highlight the host community's efforts to conserve the environment in Munduk Village, a prominent ecotourism destination. The results indicate that understanding environmentally friendly practices, such as lifestyle conservation, land stewardship, social environmentalism, and environmental citizenship, has been facilitated through various activities that promote environmental sustainability. These activities include the construction of rainwater harvesting wells, cooking classes, agricultural cultivation, tree planting, waste collection, and educational programs for both tourists and residents to encourage pro-environmental behavior. Additionally, collaboration with researchers and academic institutions has further strengthened these conservation efforts.

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