

ECOTOURISM AWARENESS THROUGH ENVIRONMENTAL EDUCATION AND ACTION PROGRAMS BY THE BENGKEL PULAU LOCAL COMMUNITY IN TERNATE CITY, NORTH MALUKU

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ABSTRAK

Program pendidikan berbasis masyarakat dan aksi lingkungan merupakan strategi penting untuk meningkatkan kesadaran publik tentang ekowisata, khususnya di wilayah yang memiliki kekayaan daya tarik alam seperti Kota Ternate. Proyek keterlibatan masyarakat ini bertujuan untuk meningkatkan pemahaman dan kepedulian masyarakat lokal terhadap prinsip-prinsip ekowisata melalui serangkaian kegiatan edukasi dan konservasi yang dilaksanakan oleh Komunitas Bengkel Pulau. Metode yang diterapkan meliputi inisiatif edukasi daring dan luring seperti webinar, diskusi berbasis film, siaran radio, kuliah tamu, serta pelatihan pemandu ekowisata. Selain itu, kegiatan aksi lingkungan juga dilakukan melalui upaya pembersihan pesisir di kawasan Danau Tolire dan kegiatan pengumpulan sampah di sekitar Benteng Kalamata, yang melibatkan kelompok pemuda, masyarakat lokal, dan pengunjung. Hasil penelitian menunjukkan adanya peningkatan signifikan dalam pemahaman peserta mengenai konsep ekowisata, konservasi lingkungan, dan perilaku ramah lingkungan. Peserta melaporkan mulai menerapkan praktik seperti pemilahan sampah, pengurangan penggunaan plastik, serta menjaga kebersihan di kawasan wisata. Aksi lingkungan tersebut juga menghasilkan dampak nyata, dengan terkumpulnya 180 kg sampah plastik di Danau Tolire dan 5 karung sampah campuran di Benteng Kalamata. Temuan ini menunjukkan bahwa program pendidikan dan aksi berbasis masyarakat dapat secara efektif mendorong perubahan perilaku positif serta memperkuat kolaborasi masyarakat dalam mendukung pengelolaan destinasi yang berkelanjutan. Model ini dapat direplikasi oleh komunitas lain atau diadopsi oleh pemerintah daerah sebagai upaya untuk meningkatkan kesadaran ekowisata di berbagai wilayah.

ABSTRACT

Community-based education and environmental action programs are essential strategies for raising public awareness of ecotourism, particularly in regions with rich natural attractions such as Ternate City. This community engagement project aims to enhance local understanding and concern for ecotourism principles through a series of educational and conservation activities conducted by the Bengkel Pulau Community. The methods implemented include online and offline educational initiatives such as webinars, film-based discussions, radio broadcasts, guest lectures, and ecotourism guide training. Additionally, environmental action activities were carried out through coastal clean-up efforts in the Tolire Lake area and waste collection activities around Kalamata Fort, involving youth groups, local residents, and visitors. The results show a significant increase in participants' understanding of ecotourism concepts, environmental conservation, and eco-friendly behavior. Participants reported adopting practices such as waste sorting, reducing plastic use, and maintaining cleanliness in tourist areas. The environmental actions also generated tangible impacts, with 180 kg of plastic waste collected at Tolire and 5 sacks of mixed waste gathered at Kalamata Fort. These findings indicate that community-based education and action programs can effectively foster positive behavioral change and strengthen community collaboration in supporting sustainable destination management. This model can be replicated by other communities or adopted by local governments as an effort to improve ecotourism awareness in various regions.

Introduction

Tourism is a crucial sector contributing to the Indonesian economy and continues to grow along with the increasing interest of both domestic and international tourists. The government, through the Ministry of Tourism and Creative Economy, has optimized the potential of natural resources through the "10 New Balis" program, which aims to encourage inclusive economic growth within the framework of sustainable tourism development (Higgins-Desbiolles, 2020; Sawu *et al.*, 2024). This priority destination program also positions North Maluku Province as a strategic region due to its substantial natural resource potential (Gani *et al.*, 2024).

Based on data from the Central Statistics Agency (BPS) during 2023–2024, national tourism development is evident in the increase in the number of domestic tourist trips and international tourist visits. Ternate City, as one of the areas with great tourism potential, has more than 60 tourist attractions consisting of historical, cultural, artificial, and natural tourism (Robo *et al.*, 2023). Destinations in Ternate City such as Lake Tolire, Jikomalamo Beach, and Batu Angus show strong ecotourism potential that is a tourist attraction. On the other hand, the increase in tourism activity in Ternate City also presents major challenges to environmental sustainability. Several tourist areas in Ternate are starting to experience ecological pressure due to resource exploitation, increased waste, and low awareness of tourists and the community in maintaining sustainability. With a population reaching 207,781 people (BPS Ternate, 2024), social dynamics and environmental pressures in tourist destinations are increasing, requiring active community involvement in maintaining tourism sustainability.

Ecotourism is a relevant approach to addressing these challenges. Ecotourism focuses not only on nature-based visits but also encourages conservation and empowerment of local communities (Afdhal, 2023; Mukasyaf *et al.*, 2024; Parmawati *et al.*, 2022). Through this approach, communities can gain economic benefits while also playing a role in maintaining the tourism ecosystem. The role of communities is crucial because they can act as agents of change through environmental action, waste management, biodiversity conservation, and education on sustainable tourism (Agustina & Purwanto, 2025; Nurjaman *et al.*, 2023).

In Ternate City, the Bengkel Pulau Community exists as a community that specifically focuses on environmental sustainability issues in the tourism sector. This community carries out various activities such as clean-ups of tourist areas, environmental education for the community and students, and training ecotourism guides. The Bengkel Pulau Community's programs have been realized in increasing understanding of the importance of protecting the environment. This community service article describes how the environmental education and action programs implemented by the Bengkel Pulau Community contribute to raising ecotourism awareness in Ternate City. Through an educational, participatory, and community-based approach, this activity is expected to become a model of good practice in strengthening ecotourism literacy, supporting environmental conservation efforts, and providing input for local governments and tourism stakeholders in developing more sustainable destination management.

Literature Review

Sustainable Tourism

Sustainable tourism is an approach to tourism development that focuses on a balance between environmental, economic, and socio-cultural aspects (Widari, 2020; Diena, M, Lemy, *et al.*, 2024). Sustainable tourism is a form of development that maintains environmental sustainability, supports

economic well-being, and considers social and ethical aspects for the community (Sulistiyadi *et al.*, 2021). Specifically, sustainable tourism can be defined as the development of the tourism sector that meets the needs of tourists without neglecting environmental conservation efforts, while providing benefits to local communities, both now and in the future (Diena, M, Lemy, *et al.*, 2024).

Ecotourism

Ecotourism was first coined by Hector Ceballos-Lascuráin in the early 1980s (Ceballos-Lascuráin, H, 1992). He defined ecotourism as travel to relatively unspoiled natural areas with the aim of studying, admiring, and enjoying the landscape, wild flora and fauna, and the various cultural expressions found within those areas (Fennell, 2015; Winarno & Harianto, 2017). Ecotourism is a form of sustainable tourism that emphasizes environmental conservation, community empowerment, and educational tourism activities (TIES, 2015). Education in ecotourism practices aims to build public understanding of ecological issues and the importance of environmentally friendly behavior.

Providing education in ecotourism development plays a crucial role in increasing public knowledge and understanding of the concept of ecotourism and the importance of sustainable environmental management (McKinley *et al.*, 2021). Meanwhile, conservation is at the heart of ecotourism activities, especially in areas with high ecological vulnerability. One of the parameters that must be considered and implemented in nature management and conservation is raising stakeholders' awareness and appreciation for the preservation of the natural environment and local culture (Butarbutar, 2021). Beach cleanups, waste reduction, and ecosystem protection have proven effective in maintaining the sustainability of tourist attractions (Sawu *et al.*, 2024).

The Role of Communities in Ecotourism Development

Local communities hold a strategic position in ecotourism development due to their close relationship with the environment and understanding of local needs. Local communities often act as educational facilitators, conservation implementers, destination managers, and liaisons between tourists and local communities (Mulyasari *et al.*, 2024). Research by Mokodompit *et al.* (2022) also confirms that community presence is a crucial factor in encouraging pro-environmental behavioral changes, particularly in waste management and coastal conservation activities. Therefore, community involvement not only strengthens ecotourism activities but also serves as a crucial foundation for achieving the sustainability of community-based tourism destinations.

Community Awareness of Ecotourism

Community awareness encompasses knowledge, attitudes, and behaviors that demonstrate concern for the sustainability of the tourism environment. According to Üzülmez *et al.* (2023), communities with a high level of environmental awareness are more actively involved in preserving tourist areas and supporting conservation efforts. Community education and community service activities have been shown to increase community understanding and participation in maintaining cleanliness, avoiding environmental damage, and playing a role in destination management (Lestari *et al.*, 2023; Sary & Santoso, 2024).

Method

This community service activity was carried out by the Bengkel Pulau Community in Ternate City, focusing on increasing public awareness of ecotourism through environmental education and action programs. The educational program was implemented in two ways: offline through outreach, group discussions, training, and live demonstrations in the field, and online education utilizing digital platforms

such as Zoom, Instagram, and YouTube to disseminate information. The environmental action included clean-up efforts at several tourist attractions in Ternate City in collaboration with the government, students, the local community, and other community volunteers.

Results And Discussion

Education

The Bengkel Pulau Community runs an educational program both online and offline. The first educational program was held on October 6, 2024, via Zoom Cloud Meeting, with the theme "Sustainable Tourism Webinar: Strategies for Managing the Impacts of Overtourism and Ensuring the Environmental Sustainability of a Destination." The following is the webinar flyer used to disseminate information and promote the program to attract the general public to participate in this educational activity.



Figure 1. Flyer Sustainable Tourism Webinar

Source: Processed by Researchers (2026)

The two speakers at this Webinar are people who have been involved in the tourism world for a long time. The first speaker was Luh Putu Savitaresta, a Sustainable Tourism Enthusiast, he is the General Manager at Trinity Gardens Ubud, an Alumni of YSEALI (Youth Southeast Asian Leadership Initiative) Sustainable Inclusive Tourism 2024, and part of the Australia Award Sustainable Tourism Management 2024. The first speaker discussed Conventional Tourism vs. Sustainable Tourism emphasizing that sustainable tourism is an effective solution to overcome the negative impacts of conventional tourism. While the second speaker was Rachel Sebbak, namely a Solo Backpacker from Switzerland and Yoga Teacher at Yin Yoga Ubud, Bali. She discussed sustainable tourism from a tourist's perspective. A good tourist is a tourist who understands and respects local culture; learns some vocabulary from the local language, dresses politely, and follows local cultural rules. In addition, tourists must also participate in protecting the environment, for example by using drinking bottles that can be reused to minimize plastic waste, choosing activities that have a low negative impact on the environment such as hiking, yoga, cycling, and walking, and using public transportation.

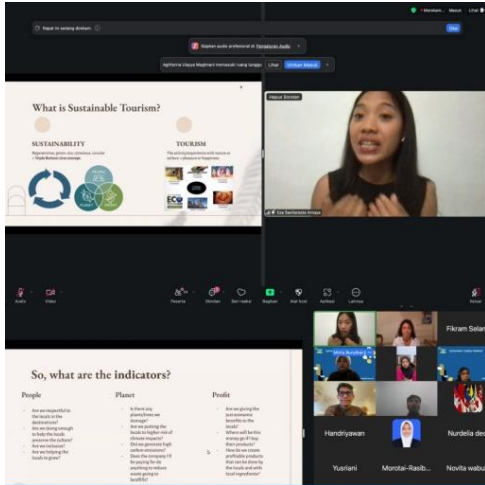


Figure 2. First Speaker

Source: Processed by Researchers (2026)

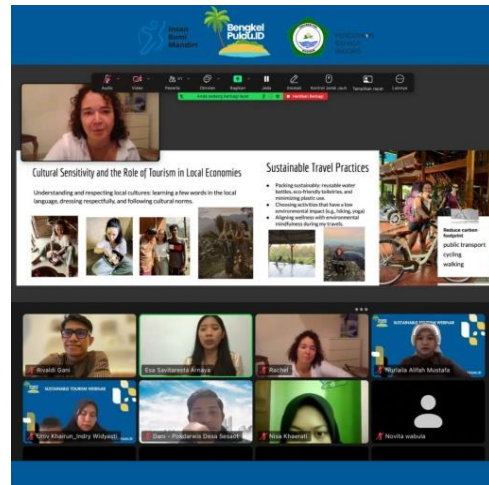


Figure 3. Second Speaker

Source: Processed by Researchers (2026)

This webinar was attended by 40 participants who made the Ternate city community the main target of education about Sustainable Tourism covering environmental, socio-cultural and economic aspects. In addition, the Bengkel Pulau Community also collaborated with undergraduate students majoring in Education and English Literature at Khairun University as part of this webinar participants with the hope that participants can understand what sustainable tourism is, how the principles, concepts and basic components of sustainable tourism, as well as raising awareness of the positive and negative impacts of tourism such as; environmental damage, socio-cultural changes, economic benefits, and conservation opportunities.

The various educational activities carried out by the Bengkel Pulau Community are reflected in various learning media and public broadcasts. The following is documentation of the implementation of the online educational program.



Figure 4. Learning Sustainable Tourism in the Film Moana

Source: Processed by Researchers (2026)

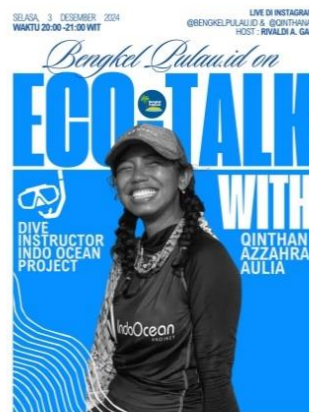


Figure 5. Learning Marine Conservation from a Dive Instructor

Source: Processed by Researchers (2026)

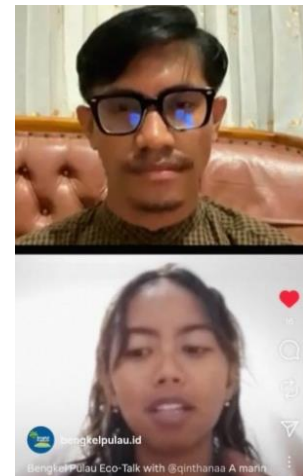




Figure 6. Broadcast of Introduction to the Ecotourism Concept with Insania Radio Station

Source: Processed by Researchers (2026)



Figure 7. Broadcast of Ecotourism Potential in North Maluku Province with Radio Republik Indonesia (RRI)

Source: Processed by Researchers (2026)

Through the use of the film *Moana*, the Bengkel Pulau community introduces the values of sustainable tourism to the community, including the importance of preserving nature and culture. Education is also reinforced through marine conservation learning sessions led by a dive instructor, who provides a first-hand understanding of efforts to maintain marine ecosystems. Furthermore, the Bengkel Pulau Community actively utilizes radio broadcasts as a platform for information dissemination, such as through a broadcast on Insania FM discussing the introduction of the concept of ecotourism, as well as a joint broadcast with Radio Republik Indonesia (RRI) highlighting the ecotourism potential in North Maluku Province. All of these activities demonstrate the Bengkel Pulau Community's commitment to raising public awareness of ecotourism in a creative and sustainable manner.

In addition to actively participating in various digital media-based educational activities, the Bengkel Pulau Community also conducts offline educational programs to ensure a more in-depth and interactive delivery of materials. These face-to-face educational activities allow community members to interact directly with participants, provide more comprehensive explanations, and create a more personalized and applicable learning experience.

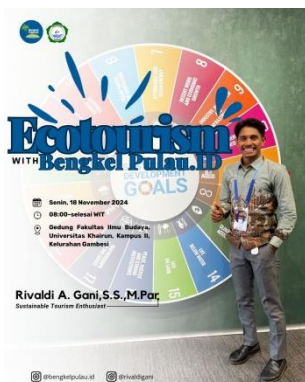


Figure 8. Guest Lecture: English for Ecotourism with Bengkel Pulau

Source: Processed by Researchers (2026)



Figure 9. Ecotourism Guide Training

Source: Processed by Researchers (2026)

Figure 8 depicts a guest lecture session where the Bengkel Pulau Community was present to provide an understanding of sustainable tourism, specifically ecotourism. In this session, material was delivered

face-to-face to students, covering basic ecotourism concepts, sustainability practices, and strengthening English language skills relevant to the world of ecotourism. This activity aims to equip students with insights and skills that can support them as future sustainable tourism practitioners. Meanwhile, Figure 9 depicts an ecotourism guide training activity conducted by the Bengkel Pulau Community in collaboration with local communities and youth. This training aimed to equip participants with basic knowledge and skills regarding ecotourism, guiding techniques, tour guide ethics, and the importance of environmental conservation. The interactive atmosphere of the activity demonstrated the Bengkel Pulau Community's commitment to increasing the capacity of the community as ecotourism practitioners in Ternate.

Overall, the series of ecotourism education activities conducted by Bengkel Pulau, including film-based discussions, Eco-Talk, radio broadcasts, guest lectures, webinars, and ecotourism guide training, were able to increase public understanding and awareness of sustainable tourism. Participants not only understood the concept of ecotourism but also demonstrated tangible behavioral changes such as sorting waste, maintaining the cleanliness of tourist areas, and implementing environmentally friendly practices in their daily lives. These findings indicate that an educational approach based on direct experience and interactive delivery of materials is very effective in building community ecological awareness, in line with ecotourism principles that emphasize education, conservation, and community empowerment (TIES, 2015; UNWTO, 2017).

The results of this activity are also consistent with previous research findings. Mulyasari *et al.* (2024) found that community-based education significantly increased environmental literacy in coastal communities. Mokodompit *et al.* (2022) emphasized the key role of local communities in fostering pro-environmental behavior, particularly in waste management. McKinley *et al.* (2021) suggested that providing education in ecotourism development plays a crucial role in increasing public knowledge and understanding of the concept of ecotourism and the importance of sustainable environmental management. Therefore, the findings from the Bengkel Pulau strengthen empirical evidence that collaborative, participatory, and contextual education can positively impact community behavior change and encourage more sustainable tourism destination management.

Environmental Action

The Bengkel Pulau community also plays an active role in implementing environmental action programs as a concrete effort to support ecotourism and sustainable tourism practices in Ternate City. The Environmental Action Program is designed to provide the community with firsthand experience regarding the importance of preserving tourist areas, while simultaneously fostering habits and collective responsibility for the environment. These actions include beach cleanups, waste management, plastic waste reduction campaigns, and community support in maintaining the cleanliness of tourist attractions and sites. The following is documentation of the environmental action program activities carried out by Bengkel Pulau.



Figure 10. Beach Cleanup Action in the Tolire Lake Area

Source: Processed by Researchers (2026)



Figure 11. Clean-up Action at Kalamata Fort

Source: Processed by Researchers (2026)

Several cleanup activities were carried out on November 17, 2024, along the shores of Lake Tolire in Takome sub-district (Figure 10). The beach cleanup was the initial initiative of the Bengkel Pulau Community, involving young people from Takome and several local communities in Ternate City. This activity successfully removed 180 kg of plastic waste.

Similarly, a clean-up activity in the Kalamata Fort area was held in collaboration with other local communities such as ANKAM (Anak Kampong) on December 22, 2024, in the Kalamata Fort area (Figure 11). The activity collected five sacks of plastic and cloth waste. Through this activity, the participants worked together to clean the coastal area of piles of garbage that had been polluting the surrounding environment and disrupting the beauty of the tourist area. This activity not only aims to maintain environmental cleanliness but also raise public awareness of the importance of preserving the Tolire Lake area and Kalamata Fort as leading tourist attractions in Ternate.

The direct impact of this activity was seen in the community's habit of maintaining cleanliness after the activity, as well as changes in participant behavior, who became more aware of the importance of not littering. These findings align with [Nurjaman *et al.* \(2023\)](#) who emphasized that community involvement in conservation activities can significantly increase pro-environmental behavior. The results of the Island Workshop activity also support research by [Lestari *et al.* \(2023\)](#) who stated that direct experience in environmental activities such as beach clean-ups strengthens participants' understanding and commitment to preventing coastal pollution. Despite facing challenges such as minimal government support, a lack of facilities, and the accumulation of large amounts of plastic waste, the Bengkel Pulau

environmental action still succeeded in having a real impact and strengthening the community's position as a key agent in realizing the concept of sustainable ecotourism.

Conclusion

The community service activities carried out by the Bengkel Pulau Community have successfully increased understanding, awareness, and environmentally friendly behavior among the people of Ternate City through a series of ecotourism education programs and conservation actions. The education, conducted through film-based discussions, Eco Talks, radio broadcasts, guest lectures, webinars, and ecotourism guide training, strengthened environmental literacy and introduced the concept of ecotourism more broadly to students, youth, the general public, and tourism stakeholders.

The immediate impact was seen in changes in participant behavior, such as starting to sort waste, maintaining the cleanliness of destinations, and encouraging others to adopt environmentally friendly practices. Environmental actions in the Tolire Lake and Kalamata Fort areas further strengthened the educational outcomes by providing participants with firsthand experience of the urgency of preserving tourist destinations. These activities resulted in a significant reduction in waste in the area and encouraged the involvement of residents, youth, and tourists in maintaining environmental cleanliness. Overall, these community service activities demonstrate that a community-based educational approach, supported by field experience, is an effective strategy for increasing ecotourism awareness and supporting the realization of sustainable tourism in Ternate City.

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