

Article

A Longitudinal Study of the Local Community Perspective on Ecotourism Development in Lombok, Indonesia

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Abstract: This study examined stakeholders' perception related to the Korea–Indonesia international ecotourism official development assistance project in Tunak, Lombok, Indonesia. In-depth interviews were conducted with 18 local community members, government officers, and project executors in 2014 and 2020. Six themes arose from the respondents' perceptions: nature appreciation, enhancement of sociocultural development, prospect of stakeholder involvement, boosting environmental conditions, present economic contributions for conservation, and project deficiencies. The results showed that the project was carried out in line with the initial plan and emphasized local community involvement. However, the community's dependence on external help could lead to unsustainable ecotourism practices in the future. Through various project programs, the local village's economy and infrastructure started to develop. Education and direct local community involvement positively affected the local community conditions, both in sociocultural and economic terms.

Keywords: international cooperation; ecotourism; local community; coastal tourism; ODA



Citation: Nur Syamsi, M.; Lee, J.-h. A Longitudinal Study of the Local Community Perspective on Ecotourism Development in Lombok, Indonesia. *Water* **2021**, *13*, 2398. <https://doi.org/10.3390/w13172398>

Academic Editors: Robert C. Burns and Danielle Schwarzmann

Received: 27 June 2021

Accepted: 26 August 2021

Published: 31 August 2021

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1. Introduction

Timber forest production has become the mainstay of Indonesia's forestry sector. It accounts for the country's second-largest foreign exchange after oil and gas. Internationally, Indonesia is a major exporter of tropical logs, more than all African and Latin American countries combined [1]. However, this massive timber harvesting activity leads to high deforestation. According to the Forest Watch Indonesia [2], in 2009–2013, 1.13 million hectares of forest were lost in the country. In response, the Indonesian government applied a moratorium on new natural forest utilization permits and promoted the ecological tourism sector. According to a Ministry of Environment and Forestry (MoEF [3]) report, there was an increase in state revenue from national parks through tourism. Strengthened by a memorandum of understanding (MOU) between the MoEF and the Ministry of Tourism, service revenue including ecotourism revenues, environmental and forestry contribution fees, and environmental and forestry service revenues increased year by year, reaching IDR 205 billion (USD 17 million) in 2019.

However, the development of natural tourist areas is still limited to famous national parks. Tourists are more likely to visit developed provinces such as Bali, Jakarta, West Java, and Yogyakarta [3]. There is the opportunity to pursue best-practice in ecotourism development. South Korea is an example of a country that successfully uses forests sustainably through the utilization of its environmental services. South Koreans' social demand for nature recreation has progressively increased, with 175 recreation forests and 28 healing forests from 2015 to present. In addition, every year, at least 3000 individuals find work in the fields of forest therapy and forest education, acquiring certificates through state-certified training programs [4].

Therefore, in 2013, the Indonesian minister of forestry asked Korea to share its recreation forest model as official development assistance (ODA). The international cooperation was planned to promote ecotourism practices in Indonesia's rich biodiversity forests, based

on Korea's modern recreation management experiences. Additionally, it was designed to revitalize the regional economy by strengthening forest recreation and ecotourism in conservation areas in Indonesia. Gunung Tunak Nature Recreation Park (TWA Gunung Tunak) on Lombok Island was chosen because it has abundant natural resources, unique biota both on land and at sea, and high biodiversity [5–8]. Moreover, it aimed to achieve economic development of the local community by focusing on ecotourism based on the landscapes of the surrounding coasts.

The community in the research area is characterized by a young and abundant workforce, good local government support policies, and development potential that can meet the demand for community-based tourism (CBT), offering an optimized setting for ecotourism.

Korea joined the OECD Development Assistance Committee (DAC) in 2010, and its ODA projects made up 0.15% of the country's Gross National Income (GNI) in 2019, or \$2540 million. It offers the most assistance to social infrastructure and economic infrastructure services, accounting for 70.4% of the total ODA volume. Major recipients are in Asia (51.7%) and Africa (26.2%) [9]. As in the case of numerous ODA projects, the primary goal of Korea's ODA is sustainability. In recent times, Korea's concessional loans, a form of credit assistance, comprised 70% of the entire ODA volume, and it intends to build a sustainable development model through bilateral cooperation instead of offering unilateral assistance. In this project, the main task was to establish a sustainable community development model that can be carried out after the termination of the project. To this end, it aimed to build an independent community development model by implementing various projects to strengthen the capacity of the local residents. This study was carried out to examine the intended sustainable ecotourism-based community development model (CBET: Community-based Ecotourism) after the conclusion of the project, and to identify any problems.

In the early twentieth century, people began to enjoy their leisure time among nature, due to the impact of urbanization after the Industrial Revolution [10]. Nilsson et al. [11] explained that people believe that trees and forests can positively affect human mental health. Later, outdoor recreation became a necessity for many people around the world, including in Indonesia. Ecological tourism has been rapidly developed since then. According to Lindberg [12], ecotourism is a journey to a natural site, aiming to protect and preserve the environment. Furthermore, ecotourism emphasizes local people's involvement. Several studies described ecotourism development in Indonesia [13–15]. One important objective of community-based ecotourism is sustainable development [16–20], and previous research has discussed increasing economic value through CBET [12,21–24]. The important precondition for successful ecotourism was the highly motivated local community for development [25,26]. Enhancing the competency of an organized local community was discussed as a significant factor for sustainable development [17,27–29].

The Korea–Indonesia Forest Recreation and Ecotourism Development Project was carried out from 2014 to 2018. During the project, the visitor numbers increased, and the development impact should clarify the influence of the project and its programs. Therefore, from that assumption, this research defined how the project and its programs (training for local communities, infrastructure, and support facilities) are affecting the number of tourists in the Tunak area. To evaluate the success and sustainability of the project, a stakeholder viewpoint was needed. Other objectives of this study were to determine the suitability of the initial goals, particularly boosting the regional economy, and to assess changes in the local communities before and after the project. This paper comprises results of two surveys from 2014 and 2020, and the following section describes the structure for the long-term survey.

2. Materials and Methods

2.1. Characteristics of the Study Area

This study was conducted in the Gunung Tunak Nature Recreation Park. Geographically, Tunak is located between 08°53'30"–08°57'30" S and 116°22'00"–116°24'00". It is a

four-hour flight from Jakarta and is located near the tourist hotspot Bali (Figure 1). The area covers a total of 1217.91 hectares and is administratively located in Mertak Village, Pujut Subdistrict, Central Lombok Regency, West Nusa Tenggara Province.

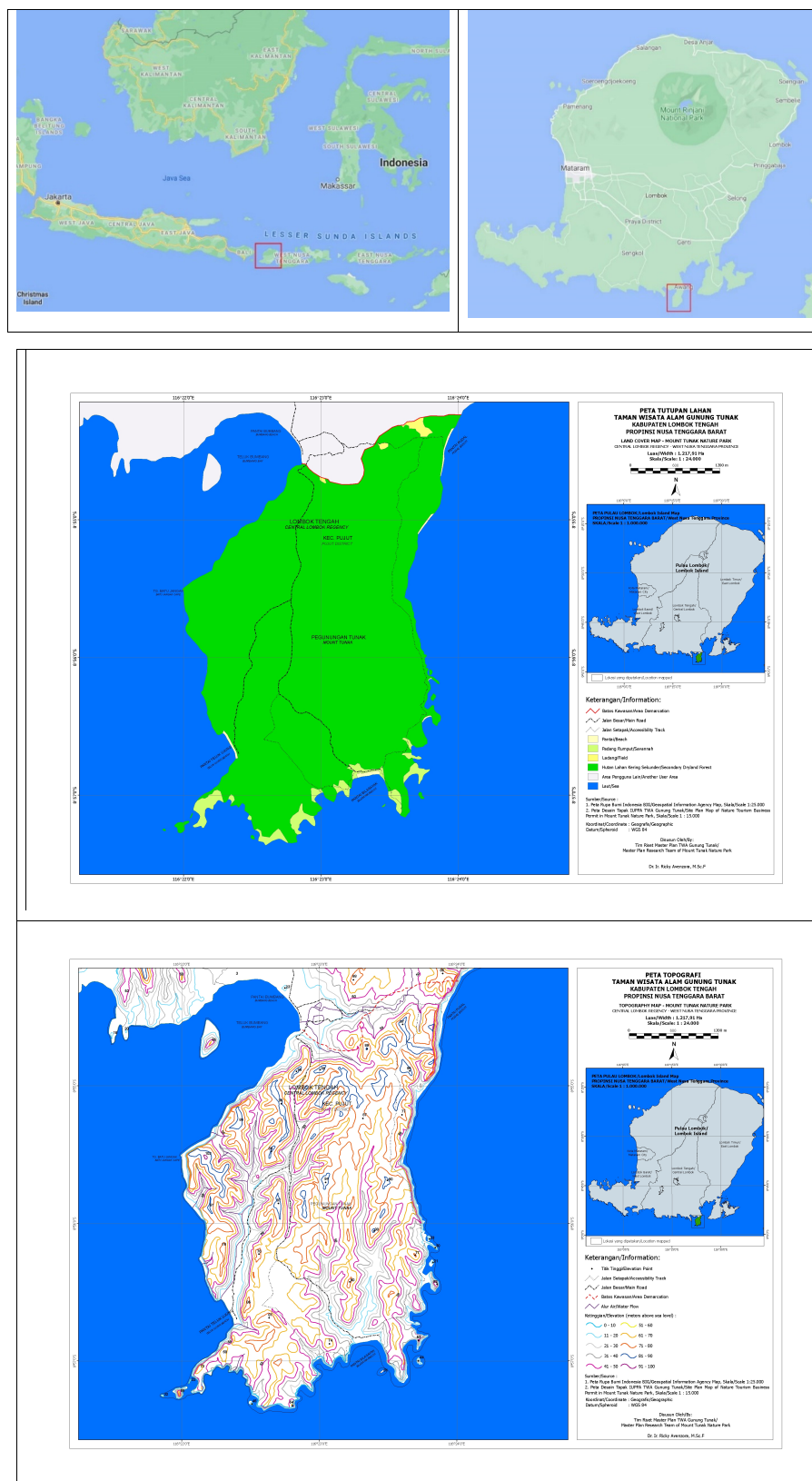


Figure 1. Map of Gunung Tunak, Lombok, Nature Recreation Park, Indonesia (Source: Google Maps, Geospatial Information Agency, IUPPA TWA Gunung Tunak).

The research area is of a gradient of 45–100%, situated 0–105 m above sea level, and the coastal areas are on a gentle slope. The rock layer is composed of chalked sedimentary rock and demonstrates characteristics of neogen soil. The area was categorized as a coastal forest ecosystem with the following dominant flora: *Syzygium javanica*, *Schoutenia ovata*, *Schleicheria oleosa*, *Tamarindus indicus*, *Kleinhovia hospita*, *Erithryna* sp., *Hibiscus tiliaceus*, *Ficus amplas*, and *Spondias* sp.

It is also home to 73 species of birds (including but not limited to, *Rhipidura javanica*, *Orthotomus* sp., *Lonchura* sp., *Saxicola caprata*, and *Streptopelia chinensis*), and in particular, Bila Sayak Beach is a nesting ground for the turtle species *Eretmochelys imbricate* and *Chelonia mydas*. A total of 30 butterfly species were also observed around the target area, including *Euphloe* sp., *Hypolimnas* sp., *Ixias reinwartii*, *Cepora temena*, and *Junonia erigone*.

2.2. Selecting Sample and Data Collection

Creswell [30] describes data collection as the process of gathering information through semi-structured or unstructured interviews and visible materials, document analysis, and recorded information. The collected data were divided into primary and secondary data. Primary data were obtained through in-depth interviews, while secondary data were acquired from the Korea Forest Service-MoEF collaboration project activity documents and any other documents related to the project.

For this research, the local community was placed as the main source informant. Thus, their suggestions on other informants were highly regarded for other involved community members and project executors. Table 1 details the nine respondents from three different stakeholders interviewed. The stakeholders were local community members involved in the project, project executors who had a role in planning and implementing activities, and official government employees both in Jakarta and West Nusa Tenggara province. Government officers and local community members play a vital role in promoting sustainable development, from the national to the local level. Their rich knowledge related to the project made them suitable subjects [31]. Project executors (interest groups) were chosen as stakeholders by considering the respondents' knowledge and wealth of information [32]. Contact with local communities was the most challenging point during the research, with movement restricted by the government due to the COVID-19 pandemic. According to Strauss and Corbin [33], in some situations, it is not possible to inquire about an "ideal case."

Table 1. General Characteristics of Key Informants.

Local Communities			
Age	Organization	Position	Task in Organization
55	Mertak Village	Village Head	Maintaining village security and judiciary aspects
31	Tunak Besopoq	Group Leader	Managing group activities in Tunak
29	Tunak Ecotourism Unit	Ex-Manager	Managing ecotourism activities in Tunak
Government Officer			
38	BKSDA NTB (MoEF)	Data Division Officer	Monitoring and reporting activities in Tunak
56	BKSDA NTB (MoEF)	Tunak Resort Head	Protecting Tunak
45	PJLHK (MoEF)	Data Division Officer	Monitoring and supervising ecotourism activities in NTB Province
Project Executors			
32	University of Mataram	Lecturer	Providing knowledge relating to ecotourism practices
40	IPB University	Researcher	Conducting field survey and involved in project design
31	IPB University	Researcher	Conducting field survey and involved in project design

Note: MoEF = Ministry of Environment and Forestry.

The first survey of the Korea–Indonesia Forest Recreation and Ecotourism Development Project was carried out from March to May 2014, and the second survey was conducted in April to May 2020, two years into self-management of the project after it was concluded in 2018. This study analyzed the results of the second survey and compared the outcomes with those of the first survey for interpretative purposes.

Interviews were conducted using an in-depth interview method. The entire interview was recorded with consent and transcribed and analyzed later. They started with semi-structured, open-ended questions to ensure the informant’s congruity with the project. Post-survey questions were utilized to gather details on the background and respondents’ interest in the project. According to Charmaz [34], post-survey questions can ensure the suitability of the questions given the experiences and preferences of the participants. The survey questions were originally composed in English then translated into Indonesian (Bahasa) and then into the Lombok dialect during the interviews; therefore, we used two translators.

2.3. Survey Theme and Data Analysis Method

An open-ended interview was conducted on the three topics of recognition of community-based ecotourism (CBET) and biodiversity protection, ecotourism and local community involvement, and financial status and post-project condition (Table 2). Data analysis procedures were done through microanalysis, open coding, axial coding, and selective coding via grounded theory [35]. In the grounded theory method, data analysis is carried out in two stages. First is examining all information from the transcribed interview to get a thorough understanding of the data and essential things. Second is coding the data, which entails breaking down data, building concepts, and rearranging them in a new way. Through coding, researchers find the substance of the data and start isolating the meaning [34]. This stage includes labeling some essential events, relations, and issues. Next, three types of coding are done: open coding, axial coding, and selective coding [33,35]. First, coding was done using open codification and then categorized based on the similarity of meaning, originating the first categories. After all categories were determined, axial coding was carried out to find the relationships between them. The processes of open coding and axial coding were repeated whenever new empirical data were obtained. The process of repeating this comparison is referred to as a constant comparison between indicators, codes, concepts, and categories with new empirical data.

Table 2. Survey Interview Themes and Questions in 2020.

Theme	Questions
Recognition of ecotourism and biodiversity protection	What do you think when you hear the word “ecotourism”? What do you feel when you enter a forest? How often do you visit a forest? And what is the purpose? Do you think there is any increase in visitor numbers in Tunak? And what is the impact on its environment? What is the most important benefit from the project for the Tunak area?
Ecotourism and local community involvement	What do you think about when you hear “Tunak Nature Park”? What do you know about the Korea–Indonesia cooperation project at Tunak Nature Park? Was it appropriate to implement the project on Lombok island, particularly in the Tunak area? Please explain your answer further. Do you think local community involvement mostly has a positive or negative impact? Please explain.
Financial status and post-project condition	In your opinion, what do most people need from the activities in the Tunak area? Do you think every project will bring benefits for the local people? What do you think about the effectiveness of the project on a scale from 0 to 10? Please explain the reason. Does the project bring benefits to you? Please explain the benefits you get. What is the most important thing that management can contribute to/do for local communities?
Post-survey:	Visit motivation, visit frequency, and staying time. Arriving time at the forest. Age/current financial status.

The derived concepts that are obtained from the open coding process are subcategorized to build categories based on similar nuance in respondents' points of view. Kruja and Hasaj [36] stated that all stakeholder interests must be identified and understood carefully, otherwise we will fail to understand the primary stakeholder group interest.

3. Results

3.1. Descriptive Summary of the First Survey in 2014

During the first year of the project in 2014, the social, economic, and ecological characteristics of the target area were investigated to set a development master plan, based on which management system and facility utilization plan were established (Figure 2).

Mertak Village itself consists of 21 smaller villages with about 7662 inhabitants, or 7.26% of the total population of Pujut Subdistrict [37]. As for the population distribution, there were a total of 3160 inhabitants under the age of 19 (male: 1647; female: 1513), making up 42% of the entire Mertak Village population. The age group with the smallest population ratio was age 60 and over with a total of 554 inhabitants (male: 255; female: 299). Some 84.3% of village inhabitants worked in agriculture, 10.46% in fishing, and 5.15% in commerce. The majority of the population had a low income as they relied on harvesting natural resources (e.g., bananas, bamboo, and farming). Only 0.49% of the inhabitants were civil servants, military servicepersons, police officers, teachers, or nurses. Most of the villagers failed to benefit from welfare services due to the lack of medical, educational, and public safety facilities. Fifty-six percent of the inhabitants did not complete their primary education, and only 16 individuals, or 0.51%, had a university degree. The economic level of the target area was quite low, with a total of 89 businesses in the fields of food and beverage, domestic handcrafted jobs, and domestic handcrafted woodworks.



Figure 2. Cont.



Figure 2. Images of research project, 2014–2018.

According to the survey in 2014, it was deemed that a CBT project based on the natural environment of the target area had great potential. To this end, construction work for the following infrastructures was carried out between 2016 and 2017: a Korean-style nature recreation lodging, a butterfly hatchery, a butterfly release center and observatory, a visitor information center, a forest interpreter research center, and a forest trail. During the same period, the need to strengthen the competency of local residents regarding the operation and program development of forest healing and CBET was proposed. In response, a program for developing local residents' capacities was carried out in both Korea and

Indonesia, providing Korean-styled training in forest education, natural handicrafts, and commentary techniques.

3.2. Interview Results in 2014

As shown in Figure 3, interviews were carried out with local inhabitants, project executors, government officials at Indonesia's MoEF, and those from the Korea Forest Service. As it was the starting year of the international cooperation project, the four groups shared many common goals and expectations, especially regarding community development, such as a revenue increase and improvements to the living environment, through the project (Table 3). The interviewees were the same individuals as those in 2020.

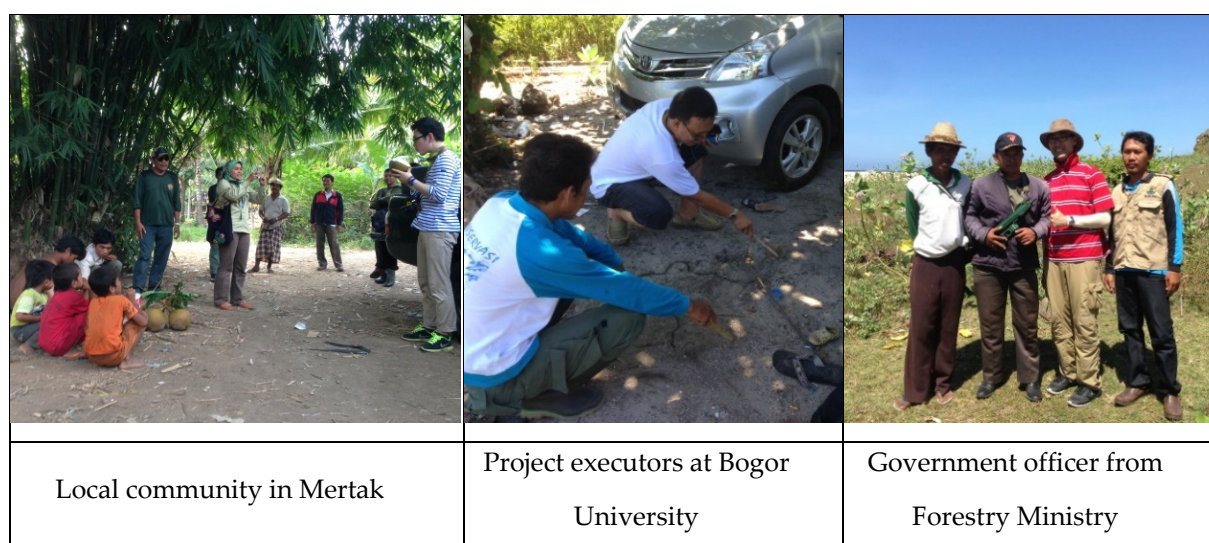


Figure 3. Interviews with government officer, project executor, and local community in 2014.

Table 3. Summary of Interview Results in 2014.

Category	Sub-Categories	Concept
Local people	Quality of life	Appropriate village development plan without negative effects on current life
Project executor	Long-term tasks	Training program for local people More than five years to successful project
Government officer in Indonesia	Local development	Successful project Local development with new conception of Korean-style forest recreation
Government officer in Korea	Project success	Successful first project of forest recreation in Indonesia

ODA = Official development assistance.

The local inhabitants wanted limited development only at sites that urgently needed it, rather than developing the entire area for tourists. They showed concern over possible damages to their source of livelihood—lobster farming on the beach—from project development. The Sasak tribe inhabits the Lombok region, and they were worried that an increase in the number of tourists may disrupt their traditional culture and customs. At the same time, they hoped that CBET could improve their quality of life through developments in transportation, culture, and education, and that the project would reflect such expectations.

“The beaches should be developed partially to minimize damage to nature. In addition, our village’s level of education is rather low, so we would be grateful to receive relevant support.” (Local person)

“I would like to have the electricity and telephone problems resolved. In particular, since roads and drinking water do not reach all places in the village, please put effort into the supply of clean water.” (Local person)

“Please continue to communicate with the local people and it is advisable to follow local customs.” (Local person)

A government officer at the MoEF hoped to attract both Korean and foreign tourists by branding the international cooperation between Korea and Indonesia, and wished to introduce the successful Korean model of the “Round Trail” into the country. He also looked forward to improving Lombok’s infrastructure (e.g., roads, energy, telecommunications, and drinking water) through cooperative projects with Korea.

“We plan to attract visitors by building something like the Olle Trail on Jeju Island in Korea. In particular, we aim to create a one-of-a-kind brand by incorporating the culture of the Sasak tribe, and butterfly, bird, and water buffalo watching. In addition to more investments as there is a lack of infrastructure, we also need more competency training for local residents to create more jobs and carry out the project.” (Government officer in Indonesia)

In short, it was pointed out that continuous and long-term support and interaction with Korea were necessary even after the finalization of the ODA project since the independent development of a village is impossible with short-term capital investment. Ultimately, it was affirmed that the identity of the Tunak region and effectiveness of the project could be secured by conducting competency training education of local residents in Korea.

“While there were numerous ODA projects from various countries in Indonesia, a one-time project is not effective at all. Instead of a perfunctory one-time cooperation, follow-up projects must take place even after the end of the current one through the collaboration between Korea and Indonesia.” (Project executor)

Meanwhile, a civil officer at the Korea Forest Service was interested in the implementation of the bilateral cooperation MOU signed in 2013. Although there has only been the import and export of lumber between the two countries, the officer was hoping for a successful outcome of the first-ever project to apply Korea’s forest healing welfare model. He proposed the adoption of Korea’s “round trip trail” because of the high likelihood of success in the relevant area, and emphasized the importance of local residents’ participation and educational training for a successful outcome.

“The area in question is a volcanic island as in the case of Jeju Island, and therefore, it is possible to consider the application of Jeju’s Olle round trip trail model. Securing state support and participation of local residents are critical to guaranteeing a long-term sustainable ODA project that is not superficial.” (Government officer in Korea)

“Consistent and continuous education on the forest healing program must be carried out for local residents through the operation of a healing tourism education center, and if possible, forming an affiliation with local universities should be considered.” (Government officer in Korea)

3.3. Interview Analysis in 2020

Each stakeholder has similarities and different views on community-based ecotourism practices in Tunak. The interviewees were the same individuals as those in 2014. Twenty-five categories of axial coding results were grouped into six main themes: Nature appreciation, enhancement of sociocultural development, boosting environmental conditions, prospect of stakeholders' involvement, present economic contribution of ecotourism, and project deficiencies. These main themes were obtained from axial and open coding (Table 4).

Table 4. (a) Summary of Coding Processes of Local community. (b) Summary of Coding Processes of Project executors. (c) Summary of Coding Processes of Government officer.

(a)		
Category	Sub-Categories	Concept
Nature appreciation	Ecotourism discovery	• Education and recreation in nature
	Nature insight	• Refreshing place, Calm condition • Comfortable place
Enhancement on socioeconomic development	Forest connections	• Visit forest nearly every day
	Empowering local people and women	• Educating and training local people • Integrating women
	Induced behavior change	• Changing local people's attitudes • Participation in protecting forest
Boosting environmental condition	Environmental emendation	• Improvement of forest condition • Infrastructure development
Prospect of stakeholders' involvement	Expectancy	• Expecting continuous capacity building program • Further collaboration among stakeholders
Project deficiency	Antithesis	• Income inequality among members • Discriminating against local people • Lack of waste management system • Training program did not achieve its goal
(b)		
Category	Sub-Categories	Concept
Nature appreciation	Comprehension	• Nature Conservation
	Affection	• Peaceful place, Calm, Challenging
	Obligation	• Visit forest for work
Enhancement of socioeconomic development	Strengthening local community	• Inculcating local community • Training local community
	Predisposition of locals' manner	• Changing local people's mindset • Forest protection from illegal use
	Improving local community entrepreneurship	• Providing job opportunities • Involving local community
Prospect of stakeholders' involvement	Future follow-up	• Continuous training program • Improving supporting facilities
Present economic contribution to conservation	Resource availability	• Increasing BKSDA revenue
Project deficiencies	Negative response to project	• Doubting visitor number increase • Discrepancies in income among group members • Waste-management issues
	Regulation barrier	• Different regulations between Indonesia and Korea
(c)		
Category	Sub-Categories	Concept
Nature appreciation	Activity	• Journey in natural area • Harmony with forest and people
	Sense through forest	• Happy, Peaceful, Healing
	Forest engagement	• Often visit forest for work
Enhancement of sociocultural development	Promoting local people	• Educating and training local people • Emphasizing local community's involvement • Bring direct and indirect benefits
	Proclivity of behavior change	• Residents' mind reshape • Participation in forest protection • Conflict resolution
Present economic contribution to conservation	Capital opportunity	• Increasing number of PNPB • Improving facilities
Boosting environmental condition	Improving environmental conditions	• Improving forest condition • Reducing forest destruction
Prospect of stakeholders' involvement	Perpetual assistance from stakeholders	• Further capacity building • Setting up attractive ecotourism packages

3.3.1. Nature Appreciation

Local people in Tunak have lived in and been dependent on forests for decades. However, previously local communities used forest resources through unsustainable practices. The local community's mindset toward tangible forest resources (timber or non-timber forest products) was mentioned by Deb [38]. The quickest way to make money is to utilize forest goods or natural resources in an unsustainable way [39–41]. Local community members asserted that before the project, they often hunted rare birds or committed forest encroachment in Tunak.

"In the 1990s, thousands of people encroached on forests in Tunak, took timber, and burned it later." (Local person)

"I regretfully said that I was one of the residents who often hunted birds in the forest. We did it regularly to make money or just for fun." (Local person)

Naturally, the local people are inseparable from the natural environment in the broadest sense [42–47]. Referring to previous research, the social characteristics of people around forests have a higher level of sensitivity to the environment [48–50]. Through education provided through the CBET project, their sensitivity reappeared. This led to changes in their perceptions of the environment, and now they perceive the forest as their home.

"Forests are ecosystems that cover all aspects of life ... Ecotourism is recreation and education activities conducted in forests ... I feel peace, comfortable, and united with nature. Therefore, I often visit Tunak just for refreshing my body." (Local person)

3.3.2. Enhancement of Community Development

All three stakeholders agreed about the enhancement of sociocultural development. Community-based ecotourism is a win–win solution to conflicts of interest among stakeholders.

As already demonstrated in previous studies, CBET is the goal of sustainable community ecotourism and has been profusely studied as a development model for coastal rural villages [16–20]. While there are studies that are skeptical of the economic development effects of CBT on a community, such as income increase and lifestyle improvements [25,26], establishing an identity by developing unique tourism opportunities and active local community involvement play a significant role in the success of ecotourism practices [51,52].

Local community involvement in planning and decision-making will boost the sustainability of CBET practices in Tunak. Even though this finding is in line with various studies that emphasized initial local community participation to address socioeconomic issues [17,51,53], in the case of Tunak, it has not been completely realized.

"The residents welcomed the presence of the project team members. Even though we could not talk to every single community member, we tried out best to accommodate all local community input and put it as recommendations for the master plan in 2014." (Project executor)

The community expressed a significant increase in economic impact. Data from the Natural Resources Conservation Center in Nusa Tenggara Barat (BKSDA NTB) also showed a significant increase in community income since CBET practices began that came from various sectors, such as the management of guest houses, local businesses, souvenirs, and tour packages (Figure 4).

"We established Tunak Besopog group ... We are the only community group that is permitted to manage environmental services in Tunak ... After we officially became part of Tunak's management, personally I enjoyed an improvement in our economic condition." (Local person)

Various studies discussed income generation from community-based ecotourism [21–24]. Lindberg [12] explicitly stated that ecotourism plays a large role in "generating economic benefits," even though, in practice, some respondents indicated that income generation still concentrated on certain groups of people.

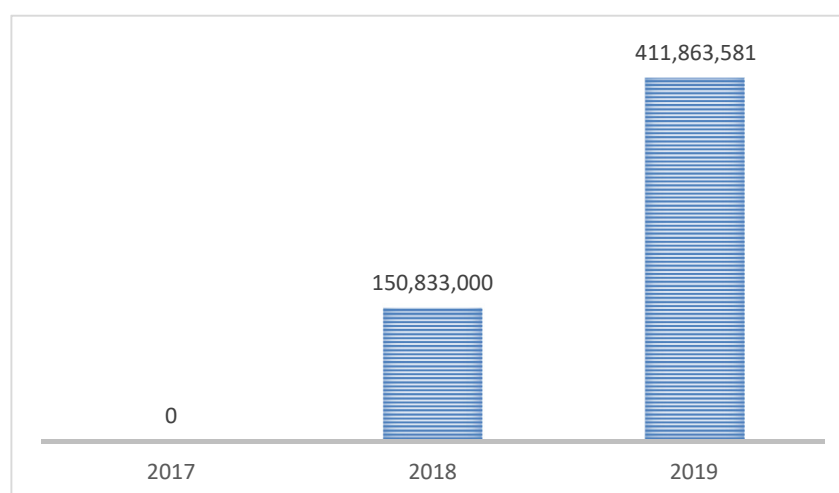


Figure 4. Local community income in 2017–2019 in target area (IDR: Indonesian Rupiah).

Another interesting point from the research was the emphasis on the involvement of gender perspectives in the perceptions of the local community. Previously, the tourism industry in Indonesia faced injustice in terms of gender issues. As shown by Wilkinson and Pratiwi's [54] study in Pangandaran, Indonesia, the participation of women in the industrial sector still often gives a negative impression. As a result of the training program, opportunities for women to engage in ecotourism practices were increased. Ramchurjee [55] suggested that the tourism sector can be a good opportunity for women's advancement. Furthermore, Haslinda [56] argued that, in some places, women play a greater role in the economic changes brought about by tourism and benefit from these changes more than men.

"Training consisted of various elements of society, both men and women ... Many women in Mertak did not have access to job opportunities. Most are housewives or doing odd jobs ... So, no less than 30% of women were involved in each training program."
(Local person)

3.3.3. Boosting Environmental Conditions

In the context of environmental conditions, government officers and local communities had similar views regarding the impact of CBET projects in Tunak. They saw an improvement in the condition of the forest areas in Tunak. Ecological protection was improved during and after CBET development [57,58]. Furthermore, through a bottom-up approach with community involvement, the sustainability of forest resources can be achieved.

"People gain more understanding about nature and tourism. Environmental conditions are also getting better." (Local person)

"For the environmental impact, hmmm ... it is good. As a field officer, I appreciated their [the local community] help. The crime rate and illegal cutting have dramatically decreased since the project began." (Government officer)

Besides, the participants also underlined the role of facility development in improving the environmental conditions in Tunak. Several facilities, such as guest houses, visitor centers, multi-purpose centers, butterfly centers, and deer sanctuaries, were built within zones of limited use in conservation areas.

3.3.4. Prospect of Stakeholders' Involvement

The formation of the local community and development through competency training have long been investigated as a sustainable development model, as in the case of research on the preservation of marine environments and local development that plays a role in the governance of coastal and marine areas [17,27–29].

Studies have also focused on the active participation and performance of local resident coalitions as a key factor in realizing sustainable forest management [59–61].

The participants had almost the same perception regarding the expectation of future stakeholder involvement. They agreed that training activities could increase their knowledge. However, some stated that some of the training was not effective. In principle, training for the community must be adjusted to the basic knowledge of the participants. So, local community respondents complained that they could not understand some of the material.

“Even though the project in Tunak between Korea and Indonesia finished two years ago, local people still expect training programs in Korean style to enhance their skills for the development of the Tunak area. Training should continue to be carried out and needs further improvement.” (Government officer)

“It’s necessary to involve them [the local people]. As far as I know, most residents come from a poor educational background. Therefore, they need continuous education programs to enhance their knowledge and skills.” (Project executor)

Promotion is also an essential factor for the future development of Tunak. Promotion can be done by setting up more attractive tour packages. This necessity lends support to Saha et al. [62], who underlined the importance of integrated and robust promotion with supporting facilities such as road conditions, electricity, and buildings to support CBET. Another way is a storynomics tourism strategy through promoting narration, creative content, living culture, and cultural strength. The successful use of this promotional strategy can be seen in the study by Kartika and Riana [63] in Tangkuban Perahu, Indonesia.

3.3.5. Present Economic Contribution for CBET

In general, government officers and project executors believed that the improvement of income from visitors should present economic contributions for conservation. They also mentioned the impact of the project and its contribution to conservation through non-tax state revenue (PNBP). According to GOI [64], PNBP comes from collecting fees on objects that could not be categorized as tax objects. According to MoEF [3], national non-tax state revenue from the tourism sector continues to increase (Figure 5). Santoso and Nugroho [65] explicitly explained that PNBP collection could be used to preserve forestry resources through its use by the agencies that collect it. This scheme could be used by TWA Tunak’s management to improve Tunak’s condition.

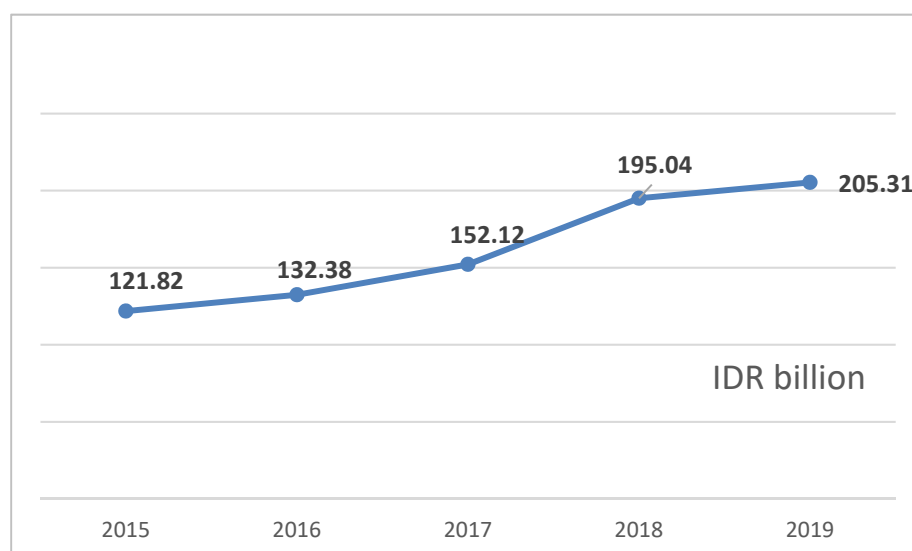


Figure 5. Total non-tax state revenue from the ecological tourism sector in 2015–2019.

“PNBP has clearly increased . . . I will give you an illustration. The initial number of visitor was 3000 and later it was multiplied to 10,000 or 16,000, which means total revenue also increased.” (Government officer)

“When I conducted research there [Tunak] at the end of 2018, I saw an increase in the amount of BKSDA revenue.” (Project executor)

3.3.6. Project Deficiencies

Some aspects of the project were viewed negatively, particularly by local communities and project executors. Their perceptions mostly focused on income disparities among local people and waste management issues. According to Greening [66], ecotourism does not make the community perceive widespread benefits, but instead benefits other stakeholders such as government officials. Moreover, Greening emphasized that, in particular conditions, ecotourism negatively impacts marginal people and the environment.

“ . . . It caused social problems. Although the scale is still small, it leads to social jealousy. It happened when community group members earned less money than their colleagues in another sub-business unit.” (Local person)

“There is a problem among residents because of discrepancies in income generation. As an example, hospitality and restaurant team members obtained more profit than souvenir and biodiversity team members.” (Project executor)

Another negative point was waste-management issues. Respondents strongly argued that waste-management issues could be a future problem. Though this has yet to become a serious issue, with increased visitors it could be a big problem. Therefore, it needs government management, including the local community’s attention, regarding safeguarding environmental facilities. This should be done to hamper the problem of contaminants, protect the environment, and hinder diseases that come from waste handling. Nyaupane and Thapa [67], who examined the impact of ecotourism development in Nepal, said that management should focus on solid waste disposal to ensure the sustainability of ecotourism activities.

“In general, public awareness of protecting the environment in Indonesia is still low. They used to litter and pollute the environment. The current condition is much better, but it still needs more concern from stakeholders.” (Local person)

“It must be affecting the environmental condition . . . Visitors with a low level of awareness littered in the Tunak area.” (Local person)

4. Discussion

4.1. The Sustainability of the Implemented International CBET Project in Tunak

The complexity in Tunak is seen in the differing views of respondents from the same stakeholder on the issues. Through the grounded theory analysis, the participants’ perceptions produced six categories: nature appreciation, enhancement of sociocultural development, prospect of stakeholder involvement, boosting environmental conditions, present economic contributions for conservation, and project deficiencies.

The results showed that the project in Tunak had been carried out in line with the initial plan and began to reach the expected results based on several indicators (see Figure 4). Although there was an initial positive impact, community-based ecotourism in Tunak still faces various challenges. This study marked a primary change in the local people’s mindset toward nature, but it had not yet reached the stage of self-initiation. The local community seemed to be waiting for activities initiated by external parties (see Section 3.2 and Table 4). This condition potentially leads people to become passive and dependent. In fact, local community engagements were essential predictors of sustainable CBET, which was criticized by an Indonesian project executor in 2014 (see Table 3). In addition, differences in sociocultural conditions between countries also hinder the successful Korean

recreation model's adaptation process, regulation, and planning duration. Moreover, CBET development must focus on local uniqueness.

Numerous previous studies (e.g., [68]) indicated that ecotourism could be considered “successful” if local people get some control over it and enjoy balanced benefits from ecotourism activities (see Sections 3.3.2 and 3.3.4). However, it is important to underline that the current successful progress does not guarantee the sustainability of the project.

4.2. Changes in Local Community Condition: Mindset and Economic Perceptive

CBET projects that have been appropriately planned, implemented, and managed will help to balance environmental conservation and community needs. In the end, the local community's change of mindset toward the environment will become the ultimate goal and support the sustainability of the local economy [69]. This study showed positive changes in the local community mindset through the Tunak conservation areas, both inland and coastal. The accumulation of activities, starting from socialization, routine meetings, and training, can revitalize the community's sensitivity to the environment. The provision of alternative livelihoods and improvement in the economic conditions of local communities also play a vital role in local community perceptions of nature.

Several studies showed improvements in the economic conditions of local communities from ecotourism activities. This can come from direct employers, rental accommodation, souvenirs [70–72], improved infrastructure, improving local stores' business, and better ecological resource integrity through the use of environmentally friendly materials [68,73,74].

From Table 5, we can see the transformation of Mertak village. The most notable result is the decrease in non-welfare families. According to BPS (Ministry of Environment and Forestry in Indonesia) [37], the number of non-welfare families drastically decreased from 235 to 1.71. Non-welfare families cannot meet basic needs, such as the need for food, clothing, housing, health, and education [75–77]. This number reflects the economic activities, such as CBET employees spending their salaries buying goods and services from other community members and spreading tourism's benefits.

Table 5. Changes in Mertak Village's Condition.

	Before the Project (2013)	After the Project (2018)
Local community income (IDR) ¹	0	411,863,581
Status of village	Left behind/Innate strength	Not left behind/Self-developing
Restaurant and kiosk	71	106
Non-welfare families ²	235.00	1.71
Road length (km)	96	98
Household electricity	84.75%	100%

¹ Tunaq besopoq community group. ² According to the welfare stage and village.

In conclusion, education and direct local community involvement have a significant effect on local community conditions both in sociocultural and economic terms. However, income disparities among locals still exist, as mentioned by Lonn et al. [25].

4.3. Study Limitations

There are two major limitations in this study that could be addressed by future research. First, the qualitative approach made it difficult to study large numbers of respondents, and the information bias derived from the 18 respondents cannot be disregarded. Second, qualitative methods can cause subjectivity in researchers. In order to reduce bias, triangulation was carried out by cross-checking the data with facts from informants that were different from the results of other studies.

5. Conclusions

The purpose of this study was to assess the sustainability of the Korea–Indonesia international ODA Forest Recreation and Ecotourism Project in Tunak, Lombok (2014–2018) through different stakeholders' perceptions. The project was carried out in line with its initial plan and emphasized local community involvement. However, to achieve sustainable community-based ecotourism, local communities must have self-initiation in future ecotourism developments. Unfortunately, they still seem to be waiting for activities initiated by external parties.

Another objective of this study was to evaluate local communities before and after the project. Through various programs, Mertak village began to see an improved economy and infrastructure. Furthermore, local communities' perceptions toward nature were changed after the project. They have more awareness of nature. Even though income disparities still exist, this study showed that education and direct local community involvement had a positive effect on local community conditions both in sociocultural and economic terms. For the sustainability of the international ODA project, increasing the engagement of local people by building their competency is essential. Training and education programs for the local people will be the ultimate support factors, rather than direct investment.

Author Contributions: Conceptualization, J.-h.L. and M.N.S.; methodology, J.-h.L.; validation, J.-h.L. and M.N.S.; formal analysis, M.N.S.; investigation, M.N.S.; resources, M.N.S.; data curation, J.-h.L.; writing—original draft preparation, M.N.S.; writing—review and editing, J.-h.L.; visualization, M.N.S.; supervision, J.-h.L.; project administration, J.-h.L.; funding acquisition, J.-h.L. Both authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Acknowledgments: The authors would like to acknowledge the staff members of BKSDA NTB, the Ministry of Environment and Forestry of the Republic of Indonesia, and Professor Ricky Avenzora at Bogor University for their assistance with this research. Also, the authors would like to thank the Asian Forest Cooperation Organization for supporting Muhammad Nur Syamsi's master program at Yeungnam University.

Conflicts of Interest: The authors declare no conflict of interest.

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