sustainability

MDPI

Article

Ecotourism as a Resource Sharing Strategy: Case Study of Community-Based Ecotourism at the Tangkahan Buffer Zone of Leuser National Park, Langkat District, North Sumatra, Indonesia

Wiratno Wiratno [1], Susanti Withaningsih [1,2,3,*], Budhi Gunawan [1,3,4] and Johan Iskandar [1,2,3]

[1] Doctoral Programme on Environmental Studies, Graduate School, Universitas Padjadjaran, Bandung 40132, Indonesia; inung.wiratno.2000@gmail.com (W.W.); budhi.gunawan@unpad.ac.id (B.G.); johan.iskandar@unpad.ac.id (J.I.)
[2] Department of Biology, Faculty of Mathematics and Natural Sciences Natural Science, Universitas Padjadjaran, Sumedang 45363, Indonesia
[3] Center for Environment and Sustainability Science, Universitas Padjadjaran, Bandung 40132, Indonesia
[4] Department of Anthropology, Faculty of Social and Political Sciences, Universitas Padjadjaran, Sumedang 45363, Indonesia
* Correspondence: susanti.withaningsih@unpad.ac.id; Tel.: +62-222-502-176

Abstract: The local community is an essential and key partner in managing protected areas, especially for national parks in Indonesia. Therefore, there is a need to establish adaptive collaborative management (ACM) between the park authorities and the local community. In 2000, several local leaders established a new organization to develop an ecotourism package called the Tangkahan Ecotourism Organization or *Lembaga Pariwisata* Tangkahan (LPT) and set up the Community Tour Operator to manage the ecotourism activities. Our study used a strengths, weaknesses, opportunities, and threats (SWOT) analysis through focus group discussions (FGDs), interviews with related stakeholders and key informants, and carried out a literature review. It was found that ensuring local community could generate alternative income from ecotourism was an effective way to protect the park from any illegal activities. Additionally, the results about sustainability from the FGDs show that all three categories: Social Process, Adaptive Natural Resource Management, and Impact/Condition are interrelated, meaning that the collaboration and adaptive management in Tangkahan have resulted in high levels of humanistic well-being and the maintenance of ecological values, supporting collaboration processes and adaptive levels. Finally, our study can be used as a basis for a model of national parks focusing on ACM.

Keywords: adaptive collaborative management; collective awareness and collective action; community-based ecotourism; sustainability

Citation: Wiratno, W.; Withaningsih, S.; Gunawan, B.; Iskandar, J. Ecotourism as a Resource Sharing Strategy: Case Study of Community-Based Ecotourism at the Tangkahan Buffer Zone of Leuser National Park, Langkat District, North Sumatra, Indonesia. *Sustainability* **2022**, *14*, 3399. https://doi.org/10.3390/su14063399

Academic Editor: Bruce Prideaux

Received: 9 February 2022
Accepted: 10 March 2022
Published: 14 March 2022

1. Introduction

Indonesia is the largest island nation in the world with 17 thousand islands covering a land area of 1.91 million km^2 [1]. Of this, more than 22 million ha or 21.26% is managed as protected areas [2,3], which exceeds the protected areas (PAs) in most countries in Asia, Africa, and Latin America [4], as well as exceeding the Aichi Biodiversity Targets aiming to protect 13% to 17% of the land surface by the year 2020 [5]. Unfortunately, human activities may negatively impact these protected areas and decrease their effectiveness as shown by current data: around 1.8 million ha or around 10% of the total area of lands in terrestrial protected areas is degraded [3]. Therefore, the importance of PAs cannot be denied, especially in light of the current high pressures for economic and human development [6,7]. PAs protect the habitats, wildlife populations, forest ecosystems, and the various ecosystem services that they provide from deforestation.

In Indonesia, 48.8 million people live inside or near state forest land and 10.2 million are classified as poor. Based on the Ministry of Forestry and National Bureau of Statistics [8,9], there are 25,863 villages or 26.6% of the total villages in Indonesia located inside or nearby state forest land. Beside production forests and protection forests, there are PAs that consist of strict nature reserves, wildlife sanctuaries, grand forest parks, recreation parks, and national parks. There are 27.14 million hectares of PAs in 552 locations covering almost all ecosystem types, including coral reefs, coasts, mangrove forests, lowland tropical forests, deciduous forests, *kerangas* forests, limestone forests, savannas, mixed savannas, cloud forests, and snow on the Cartentsz summit as well as tropical areas at the Lorentz National Park. Indonesia's PAs are surrounded by more than 6202 villages or 8% out of total 82,038 villages in the country [1], and the villages nearby PAs are occupied by 9.5 million people. In the PA, it has been proposed by Badan Registrasi Wilayah Adat (BRWA), under Aliansi Masyarakat Adat Nusantara, that there are 1,646,155 hectares of "Adat Area" and 1,334,554 hectares or 81% are located in national parks.

Before 2018, the national policy of the management for conservation areas in Indonesia was still focused mostly on the protection of parks through patrol conducted by park rangers, and the involvement of the local communities was limited. Zoning as a management tool was limited for the core zone (for the protection of biodiversity and wildlife habitat), the wilderness zone as a buffer of the core zone, and the utilization for (eco)tourism purposes. There is no traditional zone to accommodate legal access for local communities to collect non-timber forest products, water, and other environmental services. However, the gazettements of the Bukit Duabelas National Park in 2004 were exceptional. This park is purposed to guarantee legal rights and access for traditional communities, namely "*Suku Anak Dalam*" or "*Orang Rimba*", to stay and manage their ancestral land for their life. Their wisdom and knowledge about forests are respected by the park authority to this day.

Managing protected areas in Indonesia cannot be separated from the issues of (1) local communities, local economies, spiritual purposes, non-timber forest products, agroforestry, and community-based ecotourism, (2) other related local basic needs, such as the availability of water for agriculture and consumption, fuelwood, green manure, and (3) infrastructure, such as road connection to markets, schools, healthcare, and electricity. Thus, local community is an essential and key partner in managing PAs. There is a need to establish collaborative management among the park authorities, local communities, and business communities.

The practice of collaborative national park management (under different terms: collaboration, co-management, and partnership) has received the attention of many researchers in its development [10]. Research examples include reviewing the co-management concept of Karimunjawa National Park [11], raising the issue of the co-management development concept to preserve Lore Lindu National Park", and [12] observing the local knowledge of Sialang Tree management in *Orang Rimba* and the management of Bukit Duabelas National Park. These researchers observed and examined how a collaborative approach inevitably involved people surrounding the forests in the national park areas as the main stakeholders. In the collaborative management process, several key words emerge, including participation, negotiation, consensus, mutual trust, mutual respect, and mutual benefits [13].

In Indonesia, for example, between 2000 and 2012, forest cover in Sumatra was shown to be more undamaged in and the surrounding area of Pas, including national parks. Several reasons why protected areas, especially national parks in Indonesia, have been well managed include funding, park rangers, and developed ecosystem services such as tourism [14,15].

Tourism development in PAs has been the subject of many studies; however, the links between tourism, prosperity, and sustainability in these areas are complex. On a large scale, prosperity increases the environmental impact, but at the same time, increasing economic growth will increase the need for environmental protection. Conversely, Buckley (2003) stated that those links were an erroneous interpretation of history on the development of PAs. In developed nations, tourism has contributed to urban development, material consumption, and pressure on PAs, but in developing nations, the generated wealth from

tourism has sometimes been used for unproductive tools, such as guns or chainsaws, that might be a cost to conservation efforts [16].

In most countries, tourism can generate economic growth and population change, mainly through migration [17], observed by the number of people in some national parks due to their attraction to tourism opportunities [18]; although in rare cases, the resident population decreases in spite of the growth in tourism [19].

Our study aims to understand the success story of community tourism in national parks and the sustainability of ecotourism as a resource sharing strategy. The chosen case was the Gunung Leuser National Park, where the local community had been successful both in developing ecotourism activities to generate income for their community and at the same time in assisting the park authority in patroling the park. The lesson learned are from how they started the initiative, the steps taken in developing the ecotourism, how they managed and shared the revenue generated income, what they thought of sustainability, and why they were willing to participate in making sure that the park was secured.

2. Materials and Methods

This section is divided into two subsections: study area and the methods used in this study, comprising a literature review, interviews, SWOT (strengths, weaknesses, opportunities, and threats) analysis, and focus group discussions (FGDs).

2.1. Study Area

Gunung Leuser National Park is located between 2°55′ and 4°05′ N and between 96°30′ and 98°35′ E. It straddles the border of two provinces, Aceh and North Sumatra, and in five regencies, Southeast Aceh, South Aceh, North Aceh, Langkat, and Tanah Karo. Gunung Leuser National Park covers 838,872 ha and its border is 850 km long. It spreads over 100 km along the Bukit Barisan Mountain Range, from the west coast of Sumatra in the southwestern tip to less than 25 km from the north coast of the Northeastern tip (Figure 1).

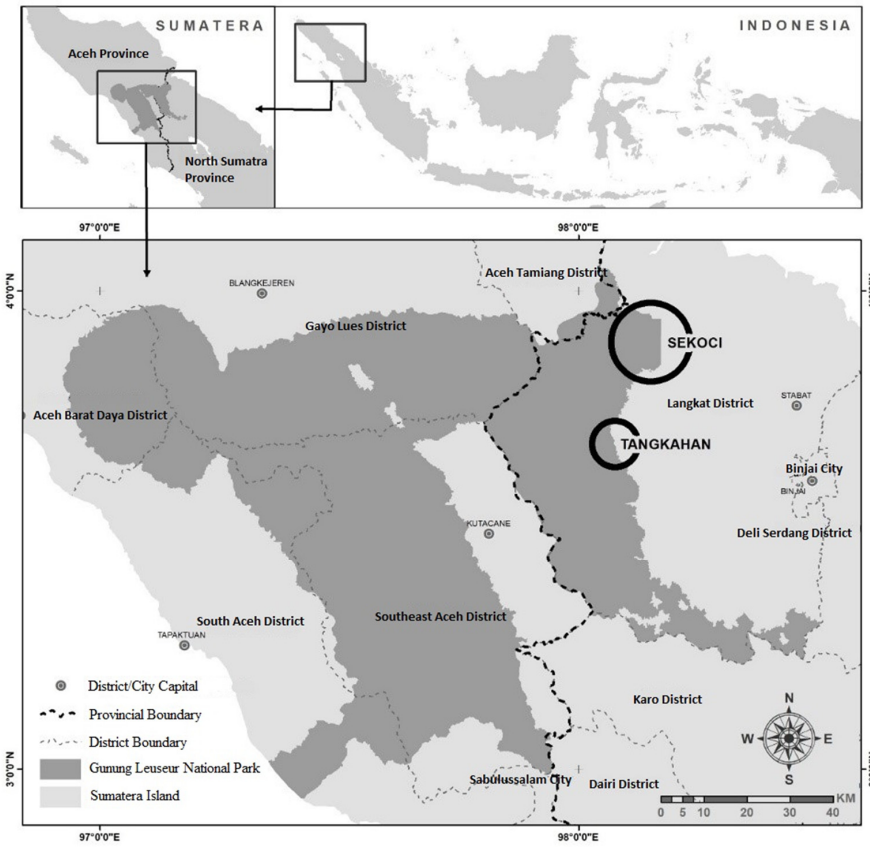

Figure 1. Study Area: Tangkahan, Mt Leuser National Park.

2.2. Methods

This research used a literature review as the secondary form of data by collecting some documents from the government, long-term management documents, maps, high-resolution satellite imagery, and some research reports on studies conducted at Gunung Leuser National Park.

In interacting with various parties, as part of the data collection, the researcher also conducted various in-depth interviews with a number of purposively selected informants. Most of the informants were selected with a snowball sampling strategy while the other small part was selected by opportunistic sampling. The selection of informants in the latter provided useful knowledge for the research.

In addition to interviews conducted individually, the researcher also conducted group interviews. This was carried out in formal/informal meetings with residents where they lived or in meetings with residents held at Gunung Leuser National Park great halls.

The researcher also checked the validity of the data by confirming the data obtained from interviews with data obtained from observation techniques or with data obtained from secondary sources (the triangulation method).

Methods in strategic management are employed to build an overall development strategy (general) as well as functional strategies (fractional) concerning a function to be performed by a state, a local government unit or an enterprise (marketing, finance, logistics, etc.). SWOT analysis is not a strategic method of analysis but is a unique algorithm for a strategic analysis process, a systemic proposal and a wide-ranging evaluation of external and internal factors, which specify an organization's current status and its development potential [20]. This method is wide-ranging because it concerns internal factors (the organization as such), and a combination of external and internal factors leads to four categories (external positive—opportunities; external negative—threats; internal positive—strengths; and internal negative—weaknesses).

SWOT assumes that strengths and weaknesses are frequently internal, while opportunities and threats are more commonly external, and the four parameters examine:

- Strengths: characteristics of the business or project that give it an advantage over others.
- Weaknesses: characteristics that place the business or project at a disadvantage relative to others.
- Opportunities: elements in the environment that the business or project could exploit to its advantage.
- Threats: elements in the environment that could cause trouble for the business or project.

The degree to which the internal environment of the organization matches with the external environment is expressed by the concept of strategy. SWOT is important because it can inform the later steps in planning to achieve an objective. Learning from the SWOTs, decision makers should consider whether the objective is attainable. If it is not, they must select a different objective and repeat the process.

To carry out a sustainability analysis on the implemented collaborative management system, data collection was carried out by inviting several experts to a focus group discussion (FGD) by adapting the Delphi method [21]. A number of experts who were considered to have comprehensive knowledge and understanding in the management of conservation areas, such as national parks, those who had conducted research, or who had collaborated with the National Park Authority, were asked to discuss and provide their responses regarding the sustainability issue of the applied management system.

The questions posed to the experts were compiled using the adaptive collaborative management sustainability criteria and indicators from [22], consisting of three categories: (1) Social Process Category, (2) Adaptive Natural Resource Management Category, and (3) Impact/Condition Category. The interrelationships of these three categories are shown in the Figure 2 below.

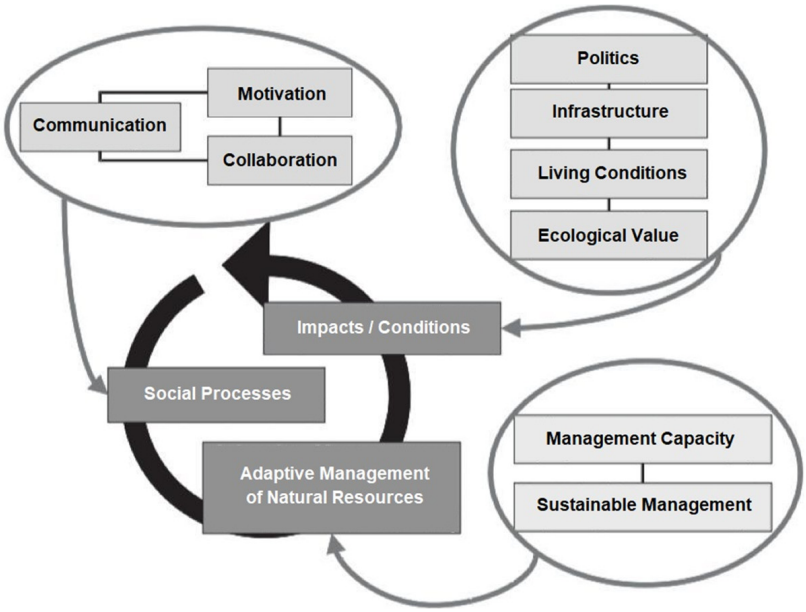

Figure 2. Sustainability categories [22].

3. Results and Discussion

Gunung Leuser National Park is the home to 380 bird species, 350 of which settle there, and this accounts for 80% of the 438 resident Sumatran birds. Thirty-six birds endemic to Sumatra are also recorded in this national park [23,24]. This national park is home to 192 species of mammals, including 15 species of rats, 13 species of bats, and 17 species of squirrels. The number of mammals in Gunung Leuser National Park is estimated at 65% of mammals in Sumatra, accounting for 129 species of the 205 species found in Sumatra [24].

Various rare species are also found here, among others: Sumatran orangutans (*Pongo abelii*), Sumatera elephants (*Elephas maximus sumatranus*), Sumatran tigers (*Panthere tigris sumatrae*), and Sumatran rhinoceros (*Dicerorhinus sumatrensis*). Additionally, mountain goats (*Capricornis sumatraensis*), *burung rangkong* (*Buceros bicornis*), *rusa sambarer* (*Cervus unicolor*), Leopard cats (*Prionailurus bengalensis sumatrans*), *Clouded leopard* (*Neofelis diardi*), *kucing emas* (*Pardofelis temincki*), Fishing cat (*Prionailurus viverrinus*), Marbled cat (*Pardofelis marmorota*), and *Flat-headed cat* (*Prionailurus planiceps*) are also found here. Other endemic mamals are *Kloss's squirrel* (*Callosciurus albescens*), *kelinci loreng Sumatera* (*Nesolagus netscheri*), and *tikus Hoogerwerf's* (*Rattus hoogerwerfi*). Primates found at the park are Sumatran orangutan (*Pongo abelii*), *Siamang* (*Symphalangus syndactylus syndactylus*), *gibon* (*Hylobates lar*), *kedih* (*Presbytis thomasi*), Silvery leaf monkey (*Trachypithecus cristatus*), *monyet ekor babi* (*Macaca nemestrina*), *monyet ekor panjang* (*Macaca fascicularis*), and sloth (*Nycticebus coucang*).

Approximately 50% of Sumatran orangutan habitat falls inside the park directly managed by the Ministry of Environment and Forestry, and 78% lies within the boundaries of the wider vast Leuser Ecosystem Area that includes the park [25]. Thus, Gunung Leuser National Park is vital habitat for the critically endangered Sumatran orangutan [26]. It is estimated that there were 85,000 Sumatran orangutans in 1900. By 2017, only 6600 were thought to exist, all in North Sumatra and Aceh provinces [25].

Similarly, 70 Sumatran tigers out of the approximately 500 individuals in Sumatra are found in this park, but the number goes up to 250 individuals, or almost half of the Sumatran tiger population, for the wider Leuser ecosystem. This park is also a key location for the critically endangered Sumatran rhino, of which only 100–150 individuals are left in three locations, Gunung Leuser, Way Kambas and Bukit Barisan National parks, with Gunung Leuser having the largest block of suitable habitats for Sumatran rhinos. Furthermore, this park and the wider Leuser Ecosystem have the largest blocks of suitable habitat for the Sumatran Elephants.

Gunung Leuser National Park area has several international statuses: (1) the Biosphere Reserve, established by Man and Biosphere (MAB) Unesco in 1981; (2) the ASEAN Heritage Park, established by the Asean Center for Biodiversity in 1984; and (3) the Tropical Rainforest Heritage of Sumatra (together with Kerinci Seblat National Park and South Bukit Barisan National Park) by UNESCO in 2004. This area has an important value as the life support for two provinces (Aceh Province and North Sumatran Province), supporting the watershed system (*Daerah Aliran Sungai* or *DAS*), being the habitat for flora and fauna, and having the potentials for environmental services and nature tourism. Based on its status and importance, effective and efficient management is necessary for this area. In Gunung Leuser National Park, four of the most important large mammals are found: the Sumatran elephant, Sumatran tiger, Sumatran rhino, and the orangutan.

Tourism is already well established in the Bohorok and Berastagi/Sibayak areas of the park. The Berastagi area, which is only 30 km from Medan, the third largest city in Indonesia, with a population of more than 4 million people, is one of the most visited areas on the weekends in North Sumatra. Similarly, thousands of people, mostly Indonesian but also many foreign tourists visit Bohorok, which is approximately 96 km to the south of Medan, to see orangutans and other wildlife and to bathe in the beautiful clear water of the river. A few hundred kilometers to the south of the park, there is Lake Toba, which is also an important tourist destination. This lake is in the largest caldera in the world. Formed by a super-volcano, the lake is more than 100 km wide and approximately 700 m deep.

The community tourism in the Tangkahan area is one of the tourism activities with a different setting. This community has been working together closely with the Tangkahan Tourism Organization (*Lembaga Pariwisata* Tangkahan or LPT) and park authority since 2005. Following this collaboration, a memorandum of understanding (MoU) was signed on 23 July 2006. This MoU has granted access rights to LPT to manage 17,500 hectares of forest area in the park nearby Tangkahan for community-based ecotourism activities. This is called resource sharing, where the park authority gives access to LPT to manage part of the park for ecotourism business, managed by the local community under LPT for five years, which can be extended based on evaluation of its effectiveness. The LPT also has a duty both to develop awareness for tourists and the local community and to protect the park from illegal activities such as poaching, illegal logging, land encroachment, and snares clean up.

This process happened just two years after the Ministry of Forestry issued P.19/Menhut-II/2004 about collaborative management in PAs. They are required to help the park authority in protecting the forest surrounding Tangkahan from illegal logging, encroachment, and poaching, and they can successfully stop all illegal activities. For example, foreign tourists would not visit Tangkahan if they heard a chainsaw operating in the park. Nowadays, we can observe that many logs are still lying down in the forest floor after the ministry has made a commitment to stop illegal logging and left all logs in the park. In 2011, the MoU has been renewed for the second phase considering the effectiveness of LPT in developing community-based ecotourism and in working with park rangers to conduct a routine patrol activity every Friday.

3.1. Ecotourism Initiative

There are five benefits that can be accrued from community-based ecotourism: (1) environmental benefits, (2) economic benefits, (3) political benefits, (4) social benefits, and (5) cultural benefits [27]. Additionally, ecotourism ventures should only be considered "successful" if the local communities have some measures of control and share equitably in the benefits [28]. He also suggests that the term "community-based ecotourism" should be reserved for those ventures based on a high degree of community control (and hence where the communities command a large proportion of the benefits), rather than those almost wholly controlled by outside operators. In the case of the ecotourism camp at Tumani Tenda, Gambia, there is evidence to support the hypothesis that a high social capital manifesting particularly in people's commitment to collectively act in village projects is instrumental in the development of the ecotourism.

It is rare in the literature to find examples of community-based initiative areas that are not managed, co-managed, or initiated by "outsiders".

In the process of initiating ecotourism or special interest tourism, the park authority and two NGOs—Indonesian Ecotourism Network or INDECON and Fauna Flora International (FFI)—works together with the newly created LPT in designing ecotourism packages, establishing community patrol systems, namely the Simalem Ranger, waste management, elephant safari, and patrol as a part of the tourism package, and establishing a Community Tour Operator (CTO) to manage foreign and local tourists. One of the most attractive packages is elephant trekking, where tourists ride on the top of the elephant with a companionship of mahouts.

Mostly, local tourists spend their time enjoying the beauty of Batang Serangan River, tubing, enjoying the forest, and seeing the waterfall. Meanwhile, foreign tourists have many alternatives to enjoy the beauty of the tropical rainforest in Tangkahan, such as joining an elephant safari and walking in the park with 2–5 km distance for 2–3 h, visiting the youth track, butterfly beach, hot spring, rafflesia spot, and salt lick spot.

Figure 3 shows the profile of visitors to Tangkahan since 2004.

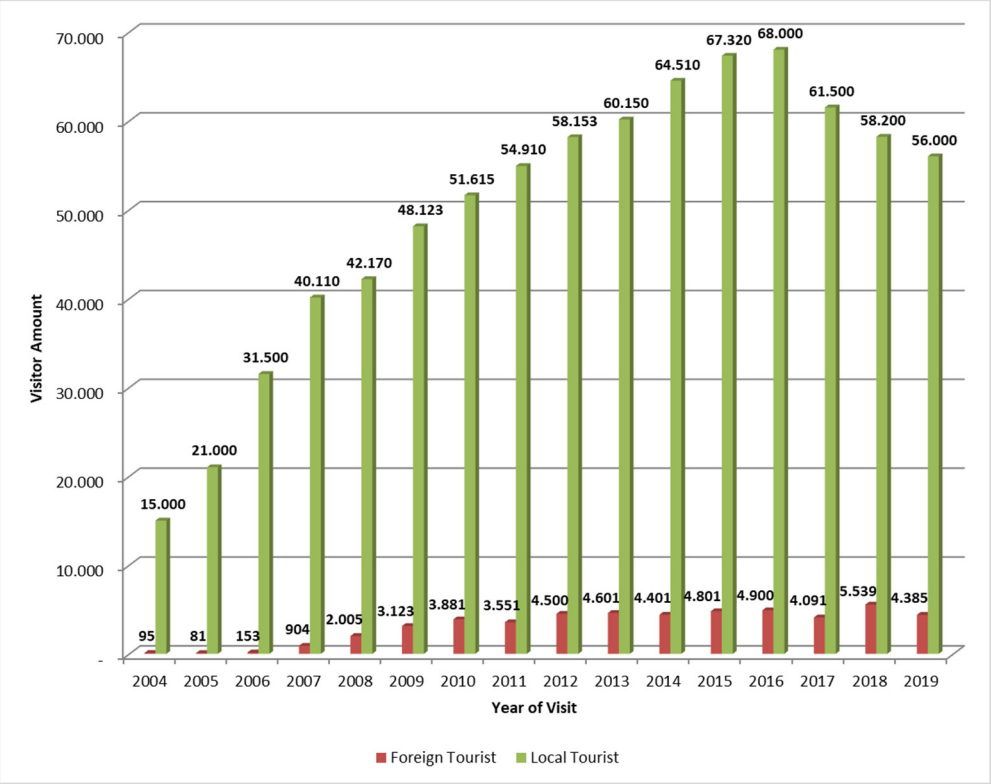

Figure 3. Profile of visitors by number to Tangkahan (2004–2019). Source: Tangkahan Community Tour Operator, 2020.

The graph shows that in 2004, Tangkahan was very popular among the local tourists from Medan and the Langkat District, and they mostly spent one day on a round trip. They enjoyed tubing, visiting the water springs and waterfall, playing along the riverside of Sei Buluh, and visiting the butterfly spot. Weekends are the most popular for local tourists visiting Tangkahan. The number started with 41 local tourists per day (1250 per month or 15,000 per year) in 2004 to 188 local tourists per day (5666 per month or 68,000 per year) in 2016. With the high number of local tourists, Tangkahan became one of the most famous outdoor recreation locations in North Sumatra Province until the DG of KSDAE closed down all ecotourism activities in the parks and recreation parks when the COVID-19 pandemic hit at the end of March 2020.

Figure 4 shows that foreign tourists spent 800–900 times more time than local visitors at Tangkahan. This seems reasonable as foreign visitors spent more than 2 days there and spent money for activities such as elephant trekking, enjoying one night in the jungle, tubing, and trekking to find wild orangutans or other wildlife in the park.

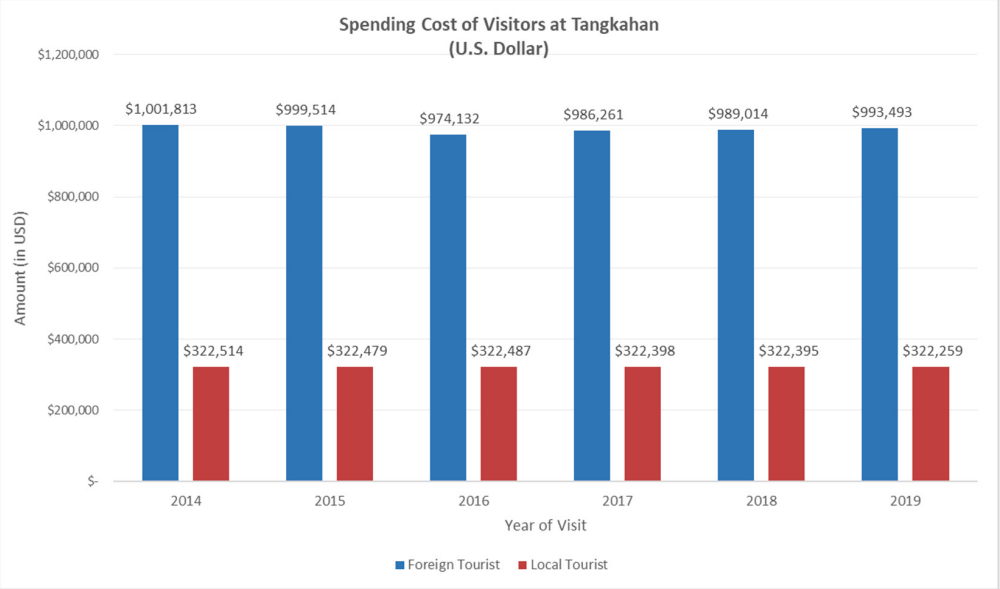

Figure 4. Spending cost of visitors at Tangkahan (2014–2019). Source: Tangkahan Community Tour Operator, 2020.

Over a five-year period (2014–2019), local tourists contributed USD 1,863,103 and foreign tourists contributed USD 5,944,227, totaling to USD 7,807,330 According to government regulation No.12, total revenue accepted by the park authority from foreign and local tourists (2015–2020) was only USD 89,013 or IDR 1,246,187,500 (1 USD = IDR 14,000).

In conclusion, the revenue from ecotourism for the local community is about 87,7 times larger than the revenue accepted by the park authority. The entrance fee for local tourists was USD 0.35 and for foreign tourists was USD 12.5 (weekday) and USD 16.0 (weekend). Additionally, foreign tourists had to pay USD 17.8 for elephant washing and USD 71.4 for elephant trekking. These packages were managed by LPT and FFI, and although they had to help park rangers to guard and patrol the park, most of the income went to the local community, which was a win–win solution. Working with the community required mutual respect, mutual trust, and mutual benefits. This was a social capital that was crucial to be developed so that the park–people relationship could be improved.

3.2. Impacts for Conservation

After the community of two villages of Namo Sialang and Sei Serdang committed to stop illegal logging in 2001, there has been a significant positive impact on the community-based ecotourism in Tangkahan, compared to Sekoci area, a part of Gunung Leuser NP, in the northern part of Tangkahan which has been heavily logged, encroached, and occupied for illegal palm oil plantation since 1990. The spatial analysis conducted by the GIS team of Gunung Leuser NP is shown in Figure 5.

The map also shows us that Tangkahan, with the community-based ecotourism as an alternative income generator for the local community, could stop illegal logging or encroachment into the park as shown by the relatively green vegetation cover as compared to the Sekoci area at the northern part of Tangkahan. There is a growing awareness from the local community in Tangkahan about the values of parks in the form of environmental services, such as the fresh and clean water stream at Buluh River and the pristine tropical forest inside the park, as an asset for ecotourism. By guarding and participating in patrolling the park, they can gradually invite foreign visitors to enjoy the beauty of Buluh River and

the tropical forest of Leuser NP nearby Tangkahan. Members of LPT and all related ecotourism activities can gradually increase their awareness to protect the park for income generation and eventually for improving their welfare.

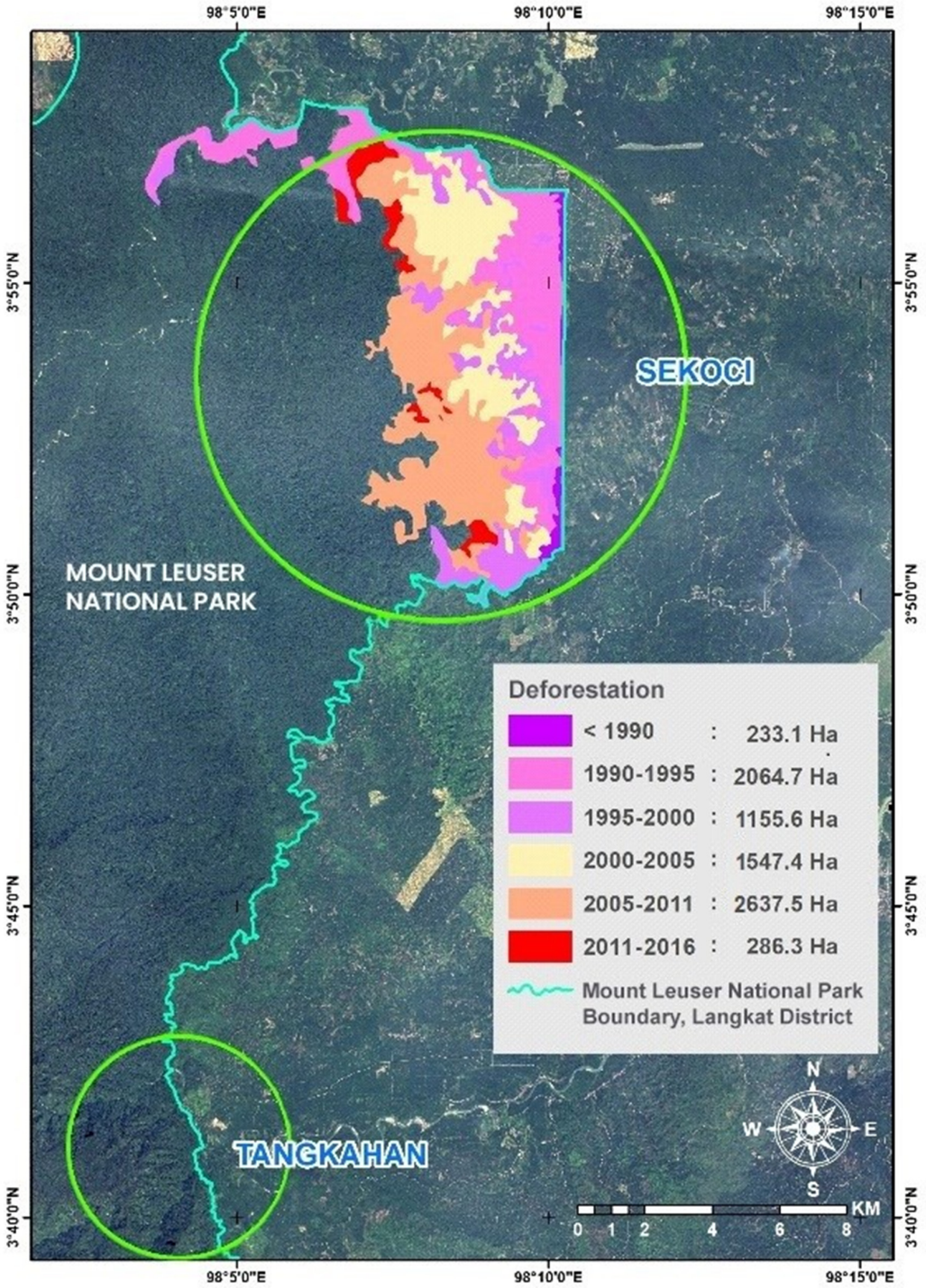

Figure 5. Comparison between the Tangkahan and Sekoci area in terms of deforestation.

The area at the Sekoci Lepan Resort has long been damaged due to encroachment for planting rubber, oil palm, and various other crops. This condition is shown through image analysis, where the following damage occurred in the noted periods: 1990–1995 (2064 Ha), 1995–2000 (1156 Ha), 2000–2005 (1547 Ha), 2005–2011 (2637 Ha), and 2011–2016 (286 Ha). The decrease in the rate of deforestation or encroachment was due to the law enforcement of Gunung Leuser National Park. Meanwhile, in Tangkahan, the forest that

was once encroached was maintained by the community for ecotourism assets, and as a result, as shown in the map, the condition of the vegetation cover did not change much (shown by the green color in Figure 4). Overall, in the period before 1990 to 2019, only the Tangkahan Resort had a very low level of disturbance. This is indicated by the relatively good vegetation cover, with no encroachment found, when compared to conditions at Sekoci Lepan Resort.

3.3. Understanding the Organization by Using SWOT Analysis

3.3.1. Strengths

1. People-Centered Approach

Since 2000, the park authority has spent time to work with the Tangkahan community in developing new initiatives, particularly for community-based ecotourism. Intensive dialogues that have been conducted since 2005 and in 2006 resulted in a formal collaboration between LPT and the park authority. An MoU was signed that granted 17,500 hectares of forest to be an ecotourism site managed by LPT. This was a relatively new management style of the park authority. It is clear, therefore, that prioritizing dialogues with the local community is a key success in developing a socio-economic buffer around the park.

2. Support from Partners

Since 2005, the park authority has opened a wide window of communications with partners who have been concerned with working in Leuser NP, in the scope of orangutan protection and law enforcement to combat illegal logging, encroachment, poaching, and wildlife trafficking. Among the prominent partners are the Sumatran Orangutan Conservation Program, Leuser Foundation, Orangutan Information Center, Wildlife Conservation Society, and Fauna Flora International. Fauna Flora International is a partner who is consistent in helping to work with LPT for ecotourism in Tangkahan in the form of elephant safaris and elephant patrol in the park, which is the most popular ecotourism attraction in Tangkahan. This attraction has contributed to more than 70% of the local income for LPT until now.

3. Award for Tangkahan

In 2004, the Tangkahan Ecotourism Institution (LPT) received the "Innovation Award" from the Minister of Tourism, the Government of Indonesia. In 2018, Tangkahan Ecotourism received the "Indonesia Sustainable Tourism Award 2018", the Green-Gold Award in the Environmental Conservation Category, GSTC Recognition Standard, from the Ministry of Tourism, the Government of Indonesia. Finally, in 2019, the chairman of the Tangkahan Community Tour Operator (TCTO) received an appreciation from The World Committee on Tourism Ethics. The committee encouraged TCTO and their collaborators to continue their endeavors in implementing the Global Code of Ethics for Tourism. This award expressed the recognition and respect to Tangkahan for their roles not only in developing the ecotourism movement, with elephant jungle trekking as the most attractive attraction [29], but also in growing the awareness to protect the tropical forests of park near their villages for long-term purposes and for the next generation. This was what made the Tangkahan initiative unique.

4. A New Site for Research

Tangkahan has also become a site for research, with 26 studies conducted at this location from 2015–2020. Among the most popular research topics in Tangkahan: financial analysis of ecotourism, ethnography of elephant-based ecotourism, plant ecology of dipterocarpaceae regeneration, and attitudes of elephants.

Some of these studies show that the foundation for sustainability in tourism, as well as in other industry sectors, is provided by the regulatory instruments, success of which is often limited by poor implementation. This situation can happen in both developed and developing nations on a global scale [29–44].

These show that standard and straightforward planning, regulations, and technological approaches are essential in reducing the pollution and the negative impacts from the large-scale and mainstream tourism development in resort clusters in both coastal and mountainous destinations and in peri-urban and urban areas.

Tourism in public protected areas is heavily studied, with a focus on:

- Visitor numbers [45–47];
- Fees and concessions arrangements [16,48–56];
- Access [57,58];
- Management tools [44,58–60];
- Interpretation [61–64].

When rigorous conditions are met, interpretation can reduce negative impacts [65,66]. Otherwise, interpretation does not change the attitudes nor the impacts [66,67].

Additionally, tourism with its communal conservancies, private reserves, and contributions to public PAs can support conservation. However, this can be achieved under specific circumstances and with associated environmental costs [59,68–70]. In a number of countries, over half of park funding is now derived by income generated from visitors, although it is more typically around 10%, or in the case for many countries, 0%.

One form of tourist-generated income, leasing tourism operating rights on communal land tenures, may contribute to the well-being of the community as well as the biodiversity conservation, depending on the legal details of land and wildlife ownership and the structure, cohesion, and internal governance of community organizations [70–75]. Similar conditions occur when tour operators lease rights from private landowners or land trusts [70,76] or from public national parks [49,70,77,78].

The significance of sustainability indicators in tourism is long recognized, and many have been proposed [58,79–83]. However, only a few of these address the actual impacts [84], which suggests a lack of ecological data. Tourist, resident, or operator-based indicators may not be complete since people may not always perceive, comprehend, or care about their impacts [85–88]. Attempts to quantify any sustainability indicators for the tourism sector worldwide have been found to be lacking, with one study focusing on pollution [84,89]. This limited progress is reflected not only in tourism but in all sectors [90].

In parks and biodiversity, conservation ecotourism is gaining significance for sustainability and influence of the tourism sector.

3.3.2. Weaknesses

There are many challenges in establishing and maintaining the spirit of togetherness in collaborative management. In the case of community-based ecotourism with elephants as the main attraction in Tangkahan, starting from 2001 until before the COVID-19 pandemic, there were several challenges as follows:

1. Monitoring

The lack of participatory monitoring and evaluation conducted by the park authorities led to a growing misunderstanding or distrust among the members of LPT. As a consequence, there was a growing inconsistency for patroling the park, with or without elephants, that was normally conducted every Friday.

2. Lack of Support from Local Government

The district and provincial government had prioritized Tangkahan as the main tourist destination in the North Sumatra Province. However, there was still a need to support Tangkahan in the form of improvement of the roads to the site, as almost 25 km of road was still in bad condition.

3. Growing Distrust

Internally, inconsistency and growing distrust between the park authority and LPT or between LPT and the community in the village can be the real threats to sustain Tangkahan as an ecotourism site. Illegal logging, wildlife hunting and trading, and encroachment can increase since they do not receive any substantial profit from ecotourism.

4. Weak Leadership

The success of ecotourism in Tangkahan is due to the fact there is a consistent strong leadership that always supports innovation. A leader who understands that a partnership including the local community around the park is a must. This is a relatively new approach in Indonesia. Guidance from [3] gives a clear direction to all park managers to put the local community as a subject. Working with the local community through conservation partnership is the main policy in solving tenurial conflict and other problems with the local community through intensive communication and dialogue. Building trust with the local community as well as strengthening the social capital at the villages near the park is essential. Tangkahan is the case that has proven the power and substant of leadership in developing a mutual respect, mutual trust, and mutual benefits.

3.3.3. Opportunities

Opportunities to implement community-based ecotourism in conservation areas have been widely opened, particularly since 2013 when the digital era started through social media such as Facebook and Instagram. Lessons from Tangkahan can give us a clear argument that ecotourism requires the local community to be treated as a subject and involved from the beginning, starting with problem identification, planning, implementation, monitoring, and evaluation. Tangkahan provides evidence for this.

In many villages located at the buffer zone of the conservation areas, forest resources in the park must provide direct or indirect economic benefits. Ecotourism can be one of the choices beside other local economic opportunities, such as non-timber forest products, water sources, and micro hydro, or even their values as spiritual sites. There is a wide-open window since 27.14 million hectares of conservation area in Indonesia is surrounded by 6747 villages. The development of a socio-economic buffer can be a significant opportunity and Tangkahan can be seen as an inspiration and evidence that we have to work with the local community as the key partners in park management.

3.4. Threats

1. Animal Welfare

Elephant riding has been the main attraction and provides the biggest local economic contribution for ecotourism business in Tangkahan. However, there has been a growing awareness of animal welfare issues, and this situation has been the main subject of criticism [91].

2. Domination of Foreign Visitors

A higher dependency on foreign visitors than local visitors was a significant problem when COVID-19 directly impacted the closing of all NPs to visitors, including ecotourism activities at Tangkahan.

3.5. Adaptive Collaborative Management (ACM) Sustainability Criteria and Indicators

ACM sustainability in Tangkahan was investigated using an analysis of the sustainability criteria and indicators [22]. The scores of a number of indicators were averaged to become the criterion scores. The average value of a number of criteria was the value of a principle and the average value of a number of the principles was the value of a category. The categories are divided into three: Social Process Category, Adaptive Natural Resource Management Category, and Impact/Condition Category. A complete analysis of ACM's sustainability can be seen in Tables 1 and 2 below.

Table 1. ACM Sustainability Analysis Categories. (**A**). Category: Social Process; (**B**) Category: Adaptive Natural Resource Management; (**C**) Category: Impact/ Condition.

(A)

No.	Principles, Criteria, and Indicators (P, C, I)	Scoring Average
P 1.	The actors are motivated to collaborate	
C 1.1.	The actors have the same basic interests	4.33
C 1.2	There are no disincentives that hinder cooperation among the actors	4.00
P 2.	Communication among the actors is sufficient	
C 2.1.	The actors know how to negotiate the political process within and between groups	5.00
C 2.2.	The actors take advantage of individual opportunities as well as the mechanisms and technologies for communication	4.29
P 3.	The actors collaborate	
C 3.1.	The actors work together within and between groups satisfactorily	4.00
C 3.2.	The actors participate in decision making and negotiations within and between groups satisfactorily	3.50

(**B**)

No.	Principles, Criteria, and Indicators (P, C, I)	Scoring Average
P 4.	The actors have the capacity and resources to manage natural resources sustainably	
C 4.1.	The actors are aware of the opportunities and requirements related to sustainable natural resource management	3.75
C 4.2.	The actors are motivated to implement sustainable management	4.33
C 4.3.	The actors have the resources to carry out management as recommended by current knowledge	4.67
P 5.	The actors manage natural resources as well as possible	
C 5.1.	The actors plan management activities adequately	5.00
C 5.2.	Resources are managed in accordance with currently developing knowledge	4.00
C 5.3.	Based on the monitoring results, management practices are continuously adjusted	5.00

(**C**)

No.	Principles, Criteria, and Indicators (P, C, I)	Scoring Average
P 6.	Politics, legislation, and institutional structures reflect the requirements to ensure sustainability	
C 6.1.	The plans set by public authorities are realistic and in line with sustainable development	4.00
C 6.2.	Legislation reflects sustainable development requirements	3.80
C 6.3.	Economic and financial policies do not conflict with sustainable development	3.20
C 6.4.	Local mechanisms, including traditions, norms, and regulations, ensure the sustainable use of resources	4.00
P 7.	Infrastructure reflects the needs of the actors	
C 7.1.	The situation in the health sector is good	2.57
C 7.2.	The availability of educational facilities and technical assistance is adequate	3.25
C 7.3.	The infrastructure for culture and entertainment is present	2.33
C 7.4.	The transportation and electricity infrastructure is adequate	3.00
C 7.5.	There is a free market to sell local products and meet the local demand	3.57
C 7.6.	Public institutions are adequately equipped to ensure law enforcement and personal safety	3.50
P 8.	The actors have adequate living conditions and live in harmony with one other	
C 8.1.	People feel safe	3.57
C 8.2.	People want to stay	3.86
C 8.3.	The actors have adequate income and property	4.00
C 8.4.	People act as responsible citizens	3.80
P 9.	The value of natural resources is maintained	
C 9.1.	Ecological processes that maintain the function of the management units are conserved	4.67
C 9.2.	Ecosystem function is maintained	3.80
C 9.3.	Processes that maintain genetic variation are conserved	-

Table 2. ACM Sustainability Analysis Resume.

No.	Category	Scoring Average
1	Social process	4.19
2	Adaptive Natural Resources Management	4.46
3	Impact/Condition	3.56

FGDs, which were analyzed using the criteria and indicators, resulted in the Social Process Categories being rated an average of 4.19 (good). This shows that the quality of articulation and communication as well as the level of integration and collaborative action was good. The category of Adaptive Natural Resources Management was rated an average of 4.46 (good), meaning that the level of planning, implementation, monitoring, and adjustment of natural resource management as well as personal, technical, and financial capacity for sustainable management was also good.

Likewise, the Impact/Condition Category was rated 3.56 (adequate) with a record value of ecosystem function being maintained. The representative area indicators, especially locations that are important for ecological interests, are maintained and are given a value of 4. This was evidenced by the relatively good condition of forest cover around the Tangkahan Resort as shown in Figure 2 compared to the vegetation cover at the Sekoci Lepan Resort. Of all the existing criteria, only one could not be filled: the process of maintaining the sustainability of genetic variation. This was because there had never been a study or research on genetic variations of both flora and fauna in Tangkahan.

The Impact/Condition for ACM on natural resources shows, on the one hand, the expected impacts of collaboration and adaptive management of natural resources, and on the other, conditions under which collaboration and adaptive management take place. Considering ACM as an integrative form of social and natural resource management, the status quo of human well-being, including issues such as infrastructure, satisfactory levels of well-being, laws, and markets, reflects the conditions, as well as the results of previous processes. Even biophysical conditions, if under human influence, can be interpreted as the impact of a specific combination of collaboration and adaptation.

The three sustainability categories above are integrally interrelated, meaning that collaboration and adaptive management in Tangkahan have resulted in high levels of humanistic well-being and the maintenance of ecological values, supporting collaboration processes and adaptive levels (the "systems approach").

4. Conclusions and Recommendations

Based on the above-mentioned results and discussions, several conclusions and recommendations can be drawn from this research. At Gunung Leuser National Park, the initiation of community-based ecotourism in Tangkahan was evaluated and showed an indication in the right direction. This direction is a response to the changing of aspirations in national park management at the local level and the dynamics of policy changes at the national level. This policy is the opening of the management access space for people living in buffer villages in the conservation partnership policy scheme.

4.1. Conclusions

Tangkahan is an important example or a success story of park–people relationships. After 20 years of this initiative, they are successful in guarding the park from massive illegal logging, encroachment, and poaching. The comparison with the Sekoci area provides clear evidence; when the local community has the opportunity to generate alternative local economic activities that increase their income substantially, not from an illegal logging, encroachment, and poaching perspective, but rather from an ecotourism perspective, they are willing to guard the park in a more collective manner based on their collective awareness at the local level. Tangkahan initiatives can be seen as a success story for community-based ecotourism.

Another lesson that can be learned from Tangkahan is the good forest cover in the park near Tangkahan, as compared to the Sekoci area. However, there is still a need to conduct periodic monitoring and evaluation by involving the key stakeholders as a basis for improvement in many aspects of their local institutions, namely LPT. The park authority should play a neutral role and conduct mentoring if there are conflicts, or review the operation and performance of LPT in order to balance between income generation from ecotourism and its impacts for the environment and protection of the park.

National parks cannot be managed in isolation from the local community. Collaborative adaptive management, or the creation of partnerships, is an essential policy strategy at this time and in the future. It requires an intensive mentoring from the park authority and NGOs starting from the beginning of the initiation. Participatory and open monitoring as well as evaluation involving key stakeholders is needed to ensure that the learning process among the key stakeholders can be conducted in a fairer way. This is an important start in order to gradually build mutual respect, trust, and benefits, and to build an adaptive collaborative management approach.

Tangkahan achieves its success due to the fact that the park authority has structured their model around the local community as being the main partner with the park and surrounding the park to guard it. In addition, the commitment from the members of LPT to protect the national park for the last 20 years is the result of strong norms, values, and trust among the members.

Additionally, the results about sustainability from the FGD show that all three categories: Social Process Category, Adaptive Natural Resource Management Category, and Impact/Condition Category are interrelated, and this means that the collaboration and adaptive management in Tangkahan have resulted in high levels of humanistic well-being and the maintenance of ecological values, supporting collaboration processes, and adaptive levels.

The study had some limitations. It is proven that community-based ecotourism initiatives still require facilitation and assistance so that any agreements can be implemented consistently through a continuous learning process. Therefore, future research on the monitoring and evaluation of the success of Gunung Leuser National Park still needs to be conducted to ensure the continuation of this success.

4.2. Recommendations

Learning from the community-based ecotourism in Tangkahan, there is a need to replicate this approach to other forest-dependent communities. Since 27.14 million hectares of conservation area in Indonesia is surrounded by 6747 villages with more than 16 million inhabitants, mostly small farmers and fisherman families, a new approach in term of developing community-based park management is the right policy.

However, considering the high variation in terms of the state of development, accessibility, biophysical, spiritual, and socio-economic situations, and the cultural setting across the villages in the park buffer zone, the approach in Tangkahan is not a blue-print for planning. Tangkahan can be seen as an inspiration for other park managers in Indonesia; working with a new approach in dealing with the local community is very important. This is the lesson that can contribute to park management style reform in Indonesia. It takes time and thus long-term monitoring and evaluation for cross-learning is essential. The park authority must be a learning organization and innovative in dealing with the local community, which is the most critical agenda to address.

Thus, our study can be used as a basis for replication to other similar situations in many villages in the buffer zone of national parks in Indonesia, with an adaptation of strategies considering the dynamics and diversity in the form of biophysics, socio-culture aspects, and political situations.

Author Contributions: Conceptualization, W.W. and S.W.; methodology, B.G.; software, W.W.; validation, S.W., B.G. and J.I.; formal analysis, W.W; investigation, W.W; resources, W.W; data curation, S.W.; writing—original draft preparation, W.W.; writing—review and editing, S.W.; visualization, W.W.; supervision, J.I.; project administration, S.W.; funding acquisition, W.W. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: This study involves humans not as patients, but as participants and/or respondents to questions and discussion for the purpose of gaining their insights. This study is also unrelated to health studies. Thus, ethical review and approval were not applicable for this study.

Informed Consent Statement: Not applicable.

Data Availability Statement: This study does not report any data.

Acknowledgments: I thank Jatna Suprijatna, Indonesian University, Pak Susyafrianto-Director of Mt Leuser NP; Ahtu Trihangga, staff of Mt Leuser NP; Wak Yun and Pak Okor as the founder of Tangkahan site and developing spirit of protection of part of Mt Leuser NP and initiator of ecotourism; the late Saiful Bahri for his brilliant ideas to establish partnership between Tangkahan and Park Authority in 2006; Syukur Alfajar Harahap; Taufik Ramadan as an environmental activist who supports collaboration between Tangkahan and park authorities; and Ary Suhandi-Indonesian Ecotourism Network that gives mentorship for developing ecotourism packages and marketing. We thank all staff of Mt Leuser NP for consistent supports and technical guidance for Tangkahan since the beginning of the ecotourism initiative. Finally, we thank Noer Fauzi Rachman, for guidance on searching for more research findings in Tangkahan, and sent many of the relevant documents to improve this research.

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

References

1. Badan Pusat Statistik. *Badan Pusat Statistic*; BPS-Statistic: Central Jakarta, Indonesia, 2018.
2. PHKA. *Statistik PHKA*; PHKA: Bangkok, Thailand, 2013.
3. Wirat. *Sepuluh Cara baru Kelola Kawasan Konservasi di Indonesia: Membangun Organisasi Pembelajar*; Direktorat Jenderal Konservasi Sumberdaya Alam dan Ekosistem: Jakarta, Indonesia, 2018.
4. Mulyana, A.; Kosmaryandi, N.; Hakim, N.; Suryadi, S. *Ruang Adaptif. Refleksi Penataan Zona/Blok di Kawasan Konservasi*; Direktorat Pemolaan dan Informasi Konservasi Alam (PIKA) Direktorat Jenderal Konservasi Sumberdaya Alam dan Ekosistem (KSDAE) Kementerian Lingkungan Hidup dan Kehutanan: Bogor, Indonesia, 2019.
5. Murniningtyas, E.; Darajati, W.; Sumardja, E.; Kementerian Negara Perencanaan Pembangunan Nasional. *Indonesian Biodiversity Strategy and Action Plan, 2015–2020*; Kementerian PPN/BAPPENAS: Jakarta, Indonesia, 2016.
6. Coad, L.; Leverington, F.; Knights, K.; Geldmann, J.; Eassom, A.; Kapos, V.; Kingston, N.; de Lima, M.; Zamora, C.; Cuardros, I.; et al. Measuring impact of protected area management interventions: Current and future use of the Global Database of Protected Area Management Effectiveness. *Philos. Trans. R. Soc. B Biol. Sci.* **2015**, *370*, 20140281. [CrossRef] [PubMed]
7. Geldmann, J.; Barnes, M.; Coad, L.; Craigie, I.D.; Hockings, M.; Burgess, N.D. Effectiveness of terrestrial protected areas in reducing habitat loss and population declines. *Biol. Conserv.* **2013**, *161*, 230–238. [CrossRef]
8. Kehutanan, D. *Identifikasi Desa Dalam Kawasan Hutan*; Pusat Rencana dan Statistik Kehutanan Departemen Kehutanan dan: Jakarta, Indonesia, 2007.
9. Kehutanan, D.; Statistik, B. *Identifikasi Desa di Dalam dan di Sekitar Kawasan Hutan 2009*; Pusat Rencana dan Statistik Kehutanan: Jakarta, Indonesia, 2009.
10. Purwanti, F. *Konsep Co-Management Taman Nasional Karimunjawa*; IPB University: Bogor, Indonesia, 2008.
11. Kassa, S.; Alikodra, H.S.; Salim, B.; Basuni, S. Co-management Untuk Menginisiasi Penyelesaian Konflik di Taman Nasional Lore Lindu. *Agroland J. Ilmu Ilmu Pertan.* **2008**, *15*, 4.
12. Marpaung, J. Pengetahuan Lokal Pengelolaan Pohon Sialang Pada Suku Anak Dalam di Taman Nasional Buki 12 Provinsi Jambi. *J. TroEthnobiol.* **2021**, 116–122.
13. Hidayat, H. National Park Management in Local Autonomy: From The Viepoint of Political Conservation in Biology: A Case Study of Tanjung Puting-Central Kalimantan. *J. Biol. Indones.* **2017**, *5*, 2.
14. Supriatna, J.; Dwiyahreni, A.A.; Winarni, N.; Mariati, S.; Margules, C. Deforestation of primate habitat on Sumatra and adjacent islands, Indonesia. *Primate Conserv.* **2017**, *31*, 71–82.
15. Supriatna, J.; Shekelle, M.; Fuad, H.A.; Winarni, N.L.; Dwiyahreni, A.A.; Farid, M.; Mariati, S.; Margules, C.; Prakoso, B.; Zakaria, Z. Deforestation on the Indonesian island of Sulawesi and the loss of primate habitat. *Glob. Ecol. Conserv.* **2020**, *24*, e01205. [CrossRef]
16. Buckley, R. Pay to Play in Parks: An Australian Policy Perspective on Visitor Fees in Public Protected Areas. *J. Sustain. Tour.* **2003**, *11*, 56–73. [CrossRef]
17. Gill, A.; Williams, P. Managing growth in mountain tourism communities. *Tour. Manag.* **1994**, *15*, 212–220. [CrossRef]
18. Wittemyer, G.; Elsen; Bean, W.T.; Burton, A.C.O.; Brashares, J.S. Accelerated human population growth at protected area edges. *Science* **2008**, *321*, 123–126. [CrossRef]
19. Heberlein, T.A.; Fredman, P.; Vuorio, T. Current tourism patterns in the Swedish mountain region. *Mt. Res. Dev.* **2002**, *22*, 142–149. [CrossRef]
20. Gurl, E. SWOT analysis: A theoretical review. *J. Int. Soc. Res.* **2017**, *4*. [CrossRef]
21. Fletcher, A.J.; Marchildon, G. Using the Delphi method for qualitative, participatory action research in health leadership. *Int. J. Qual. Methods* **2014**, *13*, 1–18. [CrossRef]
22. Pokorny, B.; Cayres, G.; Nunes, W.; Segebart, D.; Drude, R.; Steinbrenner, M. *Adaptive Collaborative Management Criteria and Indicator for Assessing Sustainability*; CIFOR: Bogor, Indonesia, 2003.

23. Wind, J. Gunung Leuser National Park: History, threats and options. *Leuser Sumatran Sanctuary* **1996**, 4–27.
24. Van Schaik, C.; Supriatna, J.; Yayasan Bina Sains Hayati Indonesia; Yayasan Leuser Internasional; Wildlife Conservation Society. *Leuser: A Sumatran Sanctuary*; Yayasan Bina Sains Hayati Indonesia, Yayasan Leuser Internasional: Depok, Indonesia; Wildlife Conservation Society: New York, NY, USA, 1996.
25. Wich, S.A.; Meijaard, E.; Marshall, A.J.; Husson, S.; Ancrenaz, M.; Lacy, R.C.; Van Schaik, C.P.; Sugardjito, J.; Simorangkir, T.; Traylor-Holzer, K.; et al. Distribution and conservation status of the orang-utan (Pongo spp.) on Borneo and Sumatra: How many remain? *Oryx* **2008**, *42*, 329–339. [CrossRef]
26. Rijksen, H.D.; Meijaard, E. *Our Vanishing Relative: The Status of Wild Orangutans at the Close of the Twentieth Century*; Springer: Cham, Switzerland, 1999.
27. Musavengane, R.; Matikiti, R. *Does Social Capital Really Enhance Community Based Ecotourism? A Review of the Literature*; Boloka Institutional Repository: Potchefstroom, South Africa, 2015.
28. Jones, S. Community-based ecotourism: The significance of social capital. *Ann. Tour. Res.* **2005**, *32*, 303–324. [CrossRef]
29. Wiranatha, A.S. Sustainable development strategy for ecotourism at Tangkahan, North Sumatera. *E-J. Tour.* **2015**, *2*, 1–8. [CrossRef]
30. Berry, S.; Ladkin, A. Sustainable tourism: A regional perspective. *Tour. Manag.* **1997**, *18*, 433–440. [CrossRef]
31. Bowen, G.A. Document analysis as a qualitative research method. *Qual. Res. J.* **2009**, *9*, 27–40. [CrossRef]
32. Dinica, V. Governance for sustainable tourism: A comparison of international and Dutch visions. *J. Sustain. Tour.* **2009**, *17*, 583–603. [CrossRef]
33. Glasson, J. *Towards Visitor Impact Management: Visitor Impacts, Carrying Capacity and Management Responses in Europe's Historic Towns and Cities*; Avebury: Aldershot, UK, 1995.
34. Hall, C.M. Changing paradigms and global change: From sustainable to steady-state tourism. *Tour. Recreat. Res.* **2010**, *35*, 131–143. [CrossRef]
35. Hunter, C.; Shaw, J. The ecological footprint as a key indicator of sustainable tourism. *Tour. Manag.* **2007**, *28*, 46–57. [CrossRef]
36. Ioannides, D. Planning for international tourism in less developed countries: Toward sustainability? *J. Plan. Lit.* **1995**, *9*, 235–254. [CrossRef]
37. Logar, I. Sustainable tourism management in Crikvenica, Croatia: An assessment of policy instruments. *Tour. Manag.* **2010**, *31*, 125–135. [CrossRef]
38. Martín-Cejas, R.R.; Sánchez, R. Ecological footprint analysis of road transport related to tourism activity: The case for Lanzarote Island. *Tour. Manag.* **2010**, *31*, 98–103. [CrossRef]
39. Mycoo, M. Sustainable tourism using regulations, market mechanisms and green certification: A case study of Barbados. *J. Sustain. Tour.* **2006**, *14*, 489–511. [CrossRef]
40. Soteriou, E.C.; Coccossis, H. Integrating sustainability into the strategic planning of national tourism organizations. *J. Travel Res.* **2010**, *49*, 191–205. [CrossRef]
41. Tosun, C. Challenges of sustainable tourism development in the developing world: The case of Turkey. *Tour. Manag.* **2001**, *22*, 289–303. [CrossRef]
42. Wall, G. International collaboration in the search for sustainable tourism in Bali, Indonesia. *J. Sustain. Tour.* **1993**, *1*, 38–47. [CrossRef]
43. Warnken, J.; Buckley, R. Scientific Quality of Tourism Environmental Impact Assessment. *J. Appl. Ecol.* **1998**, *35*, 1–8. [CrossRef]
44. Zubair, S.; Bowen, D.; Elwin, J. Not quite paradise: Inadequacies of environmental impact assessment in the Maldives. *Tour. Manag.* **2001**, *32*, 225–234. [CrossRef]
45. Buckley, R. Tools and indicators for managing tourism in parks. *Ann. Tour. Res.* **1999**, *1*, 207–210. [CrossRef]
46. Lindberg, K.; McCool, S.; Stankey, G. Rethinking carrying capacity. *Ann. Tour. Res.* **1997**, *24*, 461–465. [CrossRef]
47. Shultis, J.; More, T. American and Canadian national park agency responses to declining visitation. *J. Leis. Res.* **2011**, *43*, 110–132. [CrossRef]
48. Alpizar, F. The pricing of protected areas in nature-based tourism: A local perspective. *Ecol. Econ.* **2006**, *56*, 294–307. [CrossRef]
49. Barborak, J. Results of a comparative international review of public-private partnerships for tourism management in protected areas. *J. Sustain. Tour.* **2011**, *9*, 95–110.
50. Chung, J.Y.; Kyle, G.T.; Petrick, J.F.; Absher, D.J. Fairness of prices, user fee policy and willingness to pay among visitors to a national forest. *Tour. Manag.* **2011**, *32*, 1038–1046. [CrossRef]
51. Crompton, J.L. A theoretical framework for formulating non-controversial prices for public park and recreation services. *J. Leis. Res.* **2011**, *43*, 1–29. [CrossRef]
52. Mmopelwa, G.; Kgathi, D.L.; Molefhe, L. Tourists' perceptions and their willingness to pay for park fees: A case study of self-drive tourists and clients for mobile tour operators in Moremi Game Reserve, Botswana. *Tour. Manag.* **2007**, *28*, 1044–1056. [CrossRef]
53. Peters, H.; Hawkins, J. Access to marine parks: A comparative study in willingness to pay. *Ocean Coast. Manag.* **2009**, *52*, 219–228. [CrossRef]
54. Reynisdottir, M.; Song, H.; Agrusa, J. Willingness to pay entrance fees to natural attractions: An Icelandic case study. *Tour. Manag.* **2008**, *29*, 1076–1083. [CrossRef]
55. Thur, S.M. User fees as sustainable financing mechanisms for marine protected areas: An application to the Bonaire National Marine Park. *Mar. Policy* **2010**, *34*, 63–69. [CrossRef]
56. Uyarra, M.C.; Cote, I.M.; Gill, J.A.; Tinch, R.R.; Viner, D.; Watkinson, A.R. Island-specific preferences of tourists for environmental features: Implications of climate change for tourism-dependent states. *Environ. Conserv.* **2005**, *32*, 11–19. [CrossRef]

57. Kaltenborn, B.; Haaland, H.; Sandell, K. The public right of access–some challenges to sustainable tourism development in Scandinavia. *J. Sustain. Tour.* **2001**, *9*, 417–433. [CrossRef]
58. McCool, S.F.; Moisey, R.N.; Nickerson, N. What should tourism sustain? The disconnect with industry perceptions of useful indicators. *J. Travel Res.* **2001**, *40*, 124–131. [CrossRef]
59. Buckley, R. Evaluating the net effects of ecotourism on the environment: A framework, first assessment and future research. *J. Sustain. Tour.* **2009**, *17*, 643–672. [CrossRef]
60. Eagles, F.; McCool, S.F.; Haynes, C.D. *Sustainable Tourism in Protected Areas: Guidelines for Planning and Management*; IUCN: Gland, Switzerland, 2002.
61. Ballantyne, R.; Packer, J.; Hughes, K. Tourists' support for conservation messages and sustainable management practices in wildlife tourism experiences. *Tour. Manag.* **2009**, *30*, 658–664. [CrossRef]
62. Ballantyne, R.; Packer, J.; Sutherland, L.A. Visitors' memories of wildlife tourism: Implications for the design of powerful interpretive experiences. *Tour. Manag.* **2011**, *32*, 770–779. [CrossRef]
63. Blangy, S.; Nielsen, T. Ecotourism and minimum impact policy. *Ann. Tour. Res.* **1993**, *20*, 357–360. [CrossRef]
64. Bramwell, B.; Lane, B. Sustainable tourism: An evolving global approach. *J. Sustain. Tour.* **1993**, *1*, 1–5. [CrossRef]
65. Coghlan, A.; Gooch, M. Applying a transformative learning framework to volunteer tourism. *J. Sustain. Tour.* **2011**, *19*, 713–728. [CrossRef]
66. Littlefair, C.; Buckley, R. Interpretation reduces ecological impacts of visitors to world heritage site. *Ambio* **2008**, *37*, 338–341. [CrossRef] [PubMed]
67. Boon, I.; Fluker, M.; Wilson, N. A ten-year study of the effectiveness of an educative programme in ensuring the ecological sustainability of recreational activities in the Brisbane Ranges National Park, South-eastern Australia. *J. Sustain. Tour.* **2008**, *16*, 681–697. [CrossRef]
68. Balmford, A.; Beresford, J.; Green, J.; Naidoo, R.; Walpole, M.; Manica, A. A global perspective on trends in nature-based tourism. *PLoS Biol.* **2009**, *7*, e1000144. [CrossRef] [PubMed]
69. Buckley, R. Parks and tourism. *PLoS Biol.* **2009**, *7*, e1000143. [CrossRef] [PubMed]
70. Buckley, R. *Conservation Tourism*; CABI: Wallingford, UK, 2010.
71. Akyeampong, O.A. Pro-poor tourism: Residents' expectations, experiences and perceptions in the Kakum National Park Area of Ghana. *J. Sustain. Tour.* **2011**, *19*, 197–213. [CrossRef]
72. Jamal, T.; Stronza, A. Collaboration theory and tourism practice in protected areas: Stakeholders, structuring and sustainability. *J. Sustain. Tour.* **2009**, *17*, 169–189. [CrossRef]
73. Meguro, T.; Inoue, M. Conservation goals betrayed by the uses of wildlife benefits in community-based conservation: The case of Kimana Sanctuary in southern Kenya. *Hum. Dimens. Wildl.* **2011**, *16*, 30–44. [CrossRef]
74. Saarinen, J.; Becker, F.O.; Manwa, H.; Wilson, D. *Sustainable Tourism in Southern Africa: Local Communities and Natural Resources in Transition*; Channel View Publications: Bristol, UK, 2009.
75. Stronza, A.; Durham, W.H. *Ecotourism and Conservation in the Americas, 7*; CABI: Wallingford, UK, 2008.
76. Chancellor, C.; Norman, W.; Farmer, J.; Coe, E. Tourism organizations and land trusts: A sustainable approach to natural resource conservation? *J. Sustain. Tour.* **2011**, *19*, 863–875. [CrossRef]
77. Bushell, R.; Eagles, F. *Tourism and Protected Areas: Benefits Beyond Boundaries: The Vth IUCN World Parks Congress*; CABI: Wallingford, UK, 2006.
78. Svensson, P.; Rodwell, L.D.; Attrill, M.J. Privately managed marine reserves as a mechanism for the conservation of coral reef ecosystems: A case study from Vietnam. *Ambio* **2009**, *38*, 72–78. [CrossRef]
79. Castellani, V.; Sala, S. Sustainable performance index for tourism policy development. *Tour. Manag.* **2010**, *31*, 871–880. [CrossRef]
80. Cheong, S.-M.; Miller, M.L. Power and tourism: A Foucauldian observation. *Ann. Tour. Res.* **2000**, *27*, 371–390. [CrossRef]
81. Ko, T.G. Development of a tourism sustainability assessment procedure: A conceptual approach. *Tour. Manag.* **2005**, *26*, 431–445. [CrossRef]
82. Roberts, S.; Tribe, J. Sustainability indicators for small tourism enterprises—An exploratory perspective. *J. Sustain. Tour.* **2008**, *16*, 575–594. [CrossRef]
83. Tsaur, S.-H.; Lin, Y.-C.; Lin, J.-H. Evaluating ecotourism sustainability from the integrated perspective of resource, community and tourism. *Tour. Manag.* **2006**, *27*, 640–653. [CrossRef]
84. Hughes, H.L. Culture and tourism: A framework for further analysis. *Manag. Leis.* **2002**, *7*, 164–175. [CrossRef]
85. Budeanu, A. Sustainable tourist behaviour–a discussion of opportunities for change. *Int. J. Consum. Stud.* **2007**, *31*, 499–508. [CrossRef]
86. Dodds, R.; Graci, S.R.; Holmes, M. Does the tourist care? A comparison of tourists in Koh Phi Phi, Thailand and Gili Trawangan, Indonesia. *J. Sustain. Tour.* **2010**, *18*, 207–222. [CrossRef]
87. Miller, G.; Rathouse, K.; Scarles, C.; Holmes, K.; Tribe, J. Public understanding of sustainable tourism. *Ann. Tour. Res.* **2010**, *37*, 627–645. [CrossRef]
88. Puczko, L.; Ratz, T. Tourist and resident perceptions of the physical impacts of tourism at Lake Balaton. Hungary: Issues for sustainable tourism management. *J. Sustain. Tour.* **2000**, *8*, 458–478. [CrossRef]
89. Gössling, S. Global environmental consequences of tourism. *Glob. Environ. Change* **2002**, *12*, 283–302. [CrossRef]
90. Böhringer, C.; Jochem, E. Measuring the immeasurable—A survey of sustainability indices. *Ecol. Econ.* **2007**, *63*, 1–8. [CrossRef]
91. Labubun, N. Lively Elephants an Ethnography of Elephant-Based Ecotourism in Tangkahan, Indonesia. Master's Thesis, Wageningen University, Wageningen, The Netherlands, 27 August 2019.