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## Developing Tourism Attractions Based on Ecotourism in Aek Nauli Indonesia

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**Abstract.** Tourism development is needed because tourism can increase an income in a destination. Ecotourism is a new type of tourism that responsible towards nature, community, and the environment. Ecotourism draws more tourist's interest because besides giving natural tourism experience, they can learn to conserve the nature and involve with the community. Aek Nauli Natural Forest has been opened for public since 2011. However, the tourism is not developing despite of its attraction's potential. This research is focusing on natural attraction as one of the elements of tourism attraction. The aim of this research is to find tourist attractions that have the potential to be developed based on ecotourism in Aek Nauli. This research uses a qualitative method by conducting observation and in-depth interview with key respondents. The result of this research is a concept of potential attraction development based on ecotourism in Aek Nauli.

### 1. Introduction

As a tourism destination, an area should regularly improve the quality and quantity of its tourism attractions, work on promoting its potential effectively, efficiently and responsibly, as well as support the country's economies [1][2][3]. The natural forest of Aek Nauli is located at Sibaganding, Simalungun Regency in North Sumatra. This natural forest has been opened for public since 2011. However, only a few people know about this natural forest despite its richness in ecosystem diversity. It is located in a strategic position, due to its close proximity to Lake Toba. It occupies 1.900 Ha of land and has various types of biodiversity that can be managed to become attractions as well as to facilitate research, study, and development. If tourism activities grow in the area, it will support Lake Toba as a national tourist destination, bringing the expected one million visitors [4] and simultaneously intensify local community involvement in its development, resulting in the rise of income in the area [2][5].



## 2. Literature Review

### 2.1. *Formatting the title*

In a tourism destination, attractions are the key component to invite visitors [6][7]. They must have certain characteristics to attract visitors' interest [2][8]. Tourist attractions are varied, ranging from natural attraction, cultural attraction, social attraction, and built attraction [9]. Tourism attraction is a permanent resource that can be natural or human-made and have the purpose to attract tourism to visit an area. Indonesia is a rich country. The potential for natural wealth is extraordinary, be it biotic and abiotic natural resources. Therefore, all this wealth can be utilized as attractions for the addressed destination. The more potential a place has, the more visitors put their interest in visiting the destination [10]. Natural attraction is an attraction based on natural beauty. As a natural attraction, a tourist destination should fulfill the experience of nature towards visitors. The natural attraction development can increase the tourist amount to visit the destination if it has done in the right way. Natural attraction is based on a place's beauty and uniqueness, such as a white-sandy beach, a place with sunset and sunrise view, a sea with corals and fishes, a lake with panoramic view, volcanic mountains, a forest or savanna with rare plants and animals, a river with clear water, a waterfall in a cliff, etc. [11]. According to the Directorate General of Tourism, natural attraction is a natural resource that has potentials to attract visitors. The potential of natural tourism can be divide into four parts, including (1) plants and animals, (2) uniqueness and distinctiveness of the ecosystems, for example coastal ecosystems and mangrove ecosystems, (3) evidences of natural phenomena, such as craters, hot springs, waterfalls, and lakes, and (4) natural farming, such as rice fields, plantations, livestock, and fishery business [12]. Based on the explained literature, the study area is a natural attraction with beauty and uniqueness, in the form of a natural forest with rare biodiversity.

### 2.2. *Ecotourism*

Tourism in Indonesia is increasing rapidly nowadays. One of the tourism development concepts is ecotourism, which has a linkage to contribute to sustainable development; the concept of ecotourism is also identified as a form of sustainable tourism for conservation and development [13]. Ecotourism is growing rapidly because this type of tourism is not only giving tourist nature experience, and teach visitor to conserve the nature. Ecotourism is an approach to actualize sustainable development, integrating tourism activities, conservation, and empowerment of local communities where people can enjoy a variety of positive outcomes from it [6]. It means that ecotourism activities emphasize the importance of environmental conservation and the role of local communities.

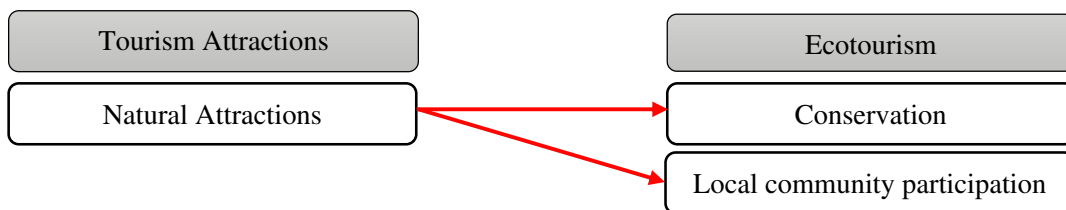
Ecotourism is related closely to nature. To develop a destination as an ecotourism destination, conservation is essential because conservation is functioned in preserving biological resources. Besides, conservation is needed to balancing the ecosystem, provide more support in improving the welfare and quality of human life, utilizing all the elements harmoniously. It is also one of the efforts to preserve wildlife [14]. Conservation also offers a protected ecosystem as a tourism destination, utilizing the diversity of nature and wildlife, without interrupting its natural origin [15].

The tourism development is related to community participation. The tourism activity should have profits towards the local community [16]. Ecotourism development is inseparable from community participation. It gives benefits to the community through involvement and empowerment. In ecotourism activities, community participation is essential in managing ecotourism areas. It is considered vital because it can affect the income of the community. Besides, the community can contribute to maintaining and conserving the environment around the ecotourism area [17]. Ecotourism development in Indonesia must be supported by the roles of local communities, it can be reached through active partnership, involving the planning, implementing, monitoring and evaluating process, creating local community

aspirations and initiatives for ecotourism development, paying attention to the specificity of local and traditional wisdom, and providing business and job opportunities for the local community [18].

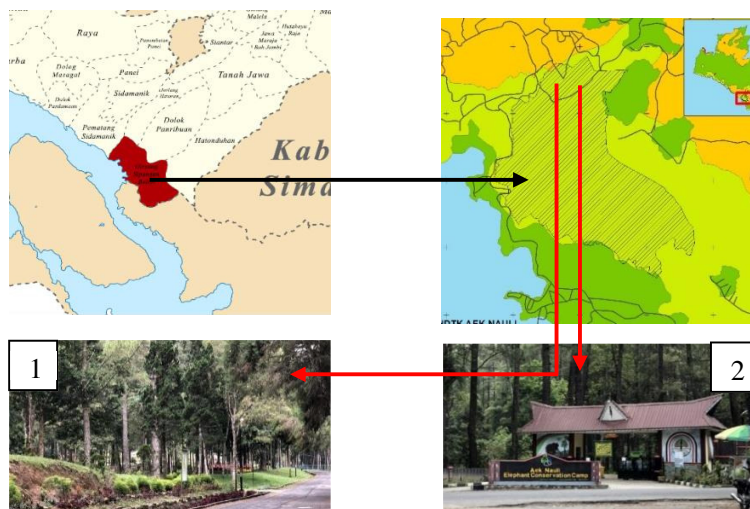
**3. Method**

This research purpose is to find potential tourist attraction in the study site. It should be based on observation and the perception of the tourism players. Therefore, the qualitative method is used. It is applicable to giving knowledge from many perspectives in the field of tourism. To recognize potential of the attractions, an observation was conducted in the study site. Meanwhile, to gain a better understanding of the attraction, depth interviews were held. Both observation and depth interview took place in the study site with five key informants, consist of a researcher at Aek Nauli Natural Forest, a community leader, a travel agent, a government officer, and visitor. To found natural attraction based on ecotourism in the study area, variables of natural attraction and variable of ecotourism are crossed (Figure 1). From the result of these crossed variables, the found parameter of things that useful to the research. The result from the research is analyzed quantitatively by attaching the observation and depth interview result with study literature. The analysis result is a reference to the concept to develop natural attraction based on ecotourism.



**Figure 1.** Chart Analysis.

As a tourism attraction that emphasizes the natural attraction in it, the study site should be a destination that contains much natural wealth that can be developed. Natural forest Aek Nauli has various natural wealth and uniqueness that could be developed as natural attractions. Therefore this forest is chosen as the study site of this research.



**Figure 2.** Study Site in Aek Nauli Natural Forest.

Aek Nauli Natural Forest is divided into two zones; they are Natural Forest with Specific Needs (Figure 2(1)) and Aek Nauli Elephant Conservation Center (ANECC) (Figure 2 (2)). Trans Sumatra Road separated these zones.

## 4. Results and Discussions

### 4.1. Natural Attractions based on Conservation

Aek Nauli Natural Forest has many conservation elements that preserve the biological nature. Based on the observation, this natural forest has various conservation activities. There are two types of conservation activities happening here, namely plants conservation and animal conservation.

For plants conservation, Arboretum Aek Nauli (Figure 2 (1)) is present in the first zone. It is one type of ex-situ conservation in Aek Nauli, where various kinds of plants are grown here instead of in its habitat. As we can see from the *Styrax sumatrana* (incense) conservation field, for two decades, the production of incense has been decreasing, mainly caused by farmers' activities. As a tourist attraction, natural attraction is a type of attraction based on natural beauty or nature uniqueness. Therefore, the incense field could attract tourists more because of its uniqueness. The arboretum facility replants this incense as its conservation program. Besides, they also conserve old trees in the facility. Apart from conservation purposes, the department also makes the incense field as a tourism site where tourists can see the harvesting activity of incense's resin. The resin is also used to produce commercial products such as perfume.

*“This incense conservation only served as a place for planting and cultivating incense, but along with the decreasing number of incense trees in Indonesia, especially in Sumatra, the development staff in Aek Nauli began to utilize this field into a tour package. Besides being a tourism attraction, this field provides information about the benefits of incense.”* (Key informant: researcher in Aek Nauli Natural Forest)



**Figure 3.** Incense field location.

The research department in Aek Nauli also conserves forest orchid. This conservation is led by the department to protect forest orchid. Forest orchid becomes rare because these orchids are illegally sold.

*“These orchids are placed here for conservation purpose only, but visitors often get curious wanting to see these rare orchids when they are passing by.”* (Key informant: travel agent)



**Figure 4.** Forest orchids location.

At first, the conservation held in the area was intended for research activities only. Throughout its growth, the head of development activities in Aek Nauli Natural Forest opened the areas and established it to become a tourism site, considering its uniqueness and its potential as an education center.

*“We decided to publicly open this natural forest because there are many issues of illegal sales and logging. It is expected tourism activities could make tourists to not only enjoy the beauty but also get educational information about nature, resulting in a grow of affection towards mother nature.”* (Key informant: government officer)

Besides plants conservation, the research center in Aek Nauli also has animal conservation. The unicolor deer are conserved in the facility for about two years as an effort to preserve wildlife. The deer becomes an interest in this area.

*“There are two deers here. These deer named Jonggi and Nauli. At first, these deers were placed here only for research purpose, but while strolling around, the tourists feel attracted towards these deers because this kind of attraction is rare to find.”* (Key informant: travel agent)



**Figure 5.** The deer conservation location.

The second zone in this study site is elephants conservation named Aek Nauli Elephant Conservation Center or ANECC. The elephant conservation is separated from the Aek Nauli Arboretum. In here, there are four elephants that people can have interactions with. Uniquely, these elephants have different names and ages. The elephant’s species is Sumatran elephant (*Elephas maximus sumatranus*) which is registered in the rare and protected species. The elephants came from Happy Holiday Resort Elephant Training Center in the neighboring regency. This elephant conservation is 300 Ha wide and has publicly opened since December 2017, where approximately 30 – 40 Ha from the conservation area is used to conserve the

elephants, and the rest is used for the elephants’ feeding zone. Besides conservation purpose, ANECC is built for elephant breeding and ecotourism. Visitors can see the elephant from a close distance, as well as touch, take photos, feed, and bath the elephant accompanied by the mahout. According to the data from the tourism department, ANECC draws tourism interest in Aek Nauli Natural Forest. In 2018, more than 60.000 visitors visited ANECC [19].

*“We enjoy the elephant conservation, since we can feel the fresh air from this place, and we can also see the elephants’ activities. Compared with elephants in the zoo that can only be seen from the cage, we can see elephants closely and it feels like we see those elephants in their real habitat.”* (Key informant: visitors.)



**Figure 6.** Elephant Conservation Location.

A cultivation activity can be made into natural attraction. There is bee cultivation in the Aek Nauli Natural Forest. At first, the bee cultivation was established for research only. To attract more tourist’s interest, the development department in Aek Nauli Natural Forest develop science tourism from the bee cultivation, where the tourists can see and learn about the honeycomb harvesting process and see the final honey products.

*“This cultivation program was made for research purpose toward the local community. Tourism places that have this kind of cultivation are limited. Therefore, this program offers many educational benefits, especially for students. The development department decided to turn this cultivation into tourism products named ‘beecosystem’ science tourism. Visitors not only learn how the bee cultivation works but also experience harvesting process themselves.”* (Key informant: researcher in Aek Nauli Natural Forest)

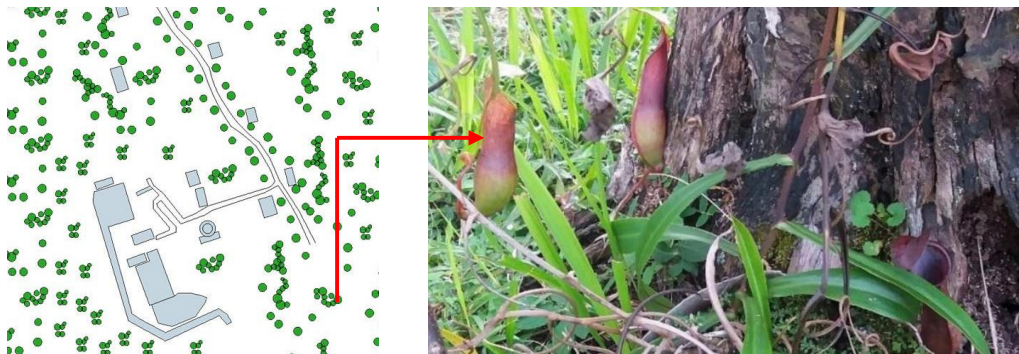


**Figure 7.** Bee Cultivation Center.

A nephentes cultivation in Aek Nauli Natural Forest is also present. These nephentes initially grew without any personal care or breeding. The development department then made an initiative to cultivate these nephentes as one of their programs.

*“While we were planning the track for trekking activity, we found this land full of nephentes. So we decided to cultivate these nephentes.”* (key informant: researcher in Aek Nauli Natural Forest)

*“The visitors who join the trekking activity always stop by because of the rarity of this plant, they take pictures of it, and we always remind them not to be too close to the plant while photographing and to be careful so they will not step on them.”* (Key informant: travel agent)



**Figure 8.** Nephentes Cultivation.

Based on observation and interviews, it is obvious that as a tourism destination, Aek Nauli Natural Forest manages and conserves biodiversity in a sustainable manner. It supports the theory that conservation offers a protected ecosystem as a tourism destination, utilizing the diversity of nature and wildlife, without interrupting its natural origin [12].

*4.2. Natural Attractions based on community*

In average, the local communities around the conservation area work as farmers. They help the researchers in Aek Nauli Natural Forest by planting wild flowers to be extracted by the bees from the cultivation center. The visitors find the nectar field area attractive because rare flowers grow there.

*“When we first planted here, we did not have any thought that the visitors would find it attractive. Since its location is near to the main road, visitors often take pictures here.”* (Key informant: community leader)



**Figure 9.** Nectar Fields Location.

The local community in Aek Nauli Natural Forest, although limited, has participated in the conservation programs. through more involvement and empowerment, the community can contribute in maintaining and conserving the environment around the ecotourism area [13].

### 5. Conclusion

The most dominant attraction that can be found in this area is natural attraction because the development staffs work on many activities to conserve plants and animals, strengthening the uniqueness of the site. Conservation presents a protected ecosystem which could be made into the natural attraction that drew more visitors. Conservation presents nature where the condition of the ecosystem is still maintained so that it can become a natural attraction that is able to attract visitors.

There are various conservation activities that the government do in this location. However, local community involvement in the activities is still low. The local community only do feeding and harvesting. This can be improved by conducting more empowerment programs in the future.

As an ecotourism destination, local community participation is important because they have better knowledge about the location. It is recommended for the government to involve the local community not only in maintaining, but also conserving and developing tourism attraction in Aek Nauli Nature Forest because the core of tourism lies in the community within, who will receive the benefits in terms of life quality improvement.

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