

## Assessing the potential of *tembawang*, a traditional forest management in Sanggau, West Kalimantan, Indonesia for ecotourism

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**Abstract.** Roslinda E, Siswoyo A, Nantah N. 2022. Assessing the potential of *tembawang*, a traditional forest management in Sanggau, West Kalimantan, Indonesia for ecotourism. *Biodiversitas* 23: 2187-2195. *tembawang* is a traditional land management system practiced by the Dayak community in Kalimantan, Indonesia. It resembles a miniature tropical forest that can be developed as an ecotourism alternative. This study aimed to assess the potential of *tembawang* Kampung Lama in Sanggau District, West Kalimantan, as a natural tourist attraction. The research used a survey method and data collection was carried out by distributing questionnaires to respondents, in-depth interviews, Focus Group Discussions, direct observation, and document analysis. Assessment and analysis of data followed guidelines from the government. The results showed that *tembawang* Kampung Lama has a moderate potential to be developed as an ecotourism destination. The elements of tourist attractions, supporting infrastructure and availability of clean water were in a good category, while the accessibility was in the moderate category, and the socio-economic conditions and accommodation were in the bad category. The development of *tembawang* as a tourist attraction must be supported by improving accessibility and accommodation facilities. In addition, tour packages can be developed by integrating landscape tours consisting of rice fields, *tembawang*, secondary forests in the hills and cascades around the *tembawang* to attract more tourists to visit.

**Keyword:** Dayak, Forest Management Unit, natural attraction, *tembawang*, tourist

### INTRODUCTION

Tourism has become the world's foremost emerging economic sector. In Indonesia, the World Tourism Organization (WTO) estimated that more than 15 million inbound and 12 million outbound tourists in 2019 (WTO 2020). Tourist objects and attractions are essential components in the tourism industry and one of the reasons for visitors to travel as something to see. The definition of a tourist object is often associated with a tourism destination or tourism destination. In Law Number 10 of 2009 Chapter, I Article I explains that tourism destination areas are geographical areas within one or more administrative areas in which there are tourist attractions, public facilities, tourism facilities, accessibility, and communities that are interrelated and complement the realization of tourism. Meanwhile, the tourist attraction is everything that has uniqueness, beauty, and value in the form of a diversity of natural, cultural, and artificial wealth that is the target or purpose of tourist visits.

Another opinion was expressed by Ginting et al. (2012), which defines that tourism objects are exciting elements and have been visited by tourists. In contrast, attraction is everything interesting but not necessarily visited. This attraction still requires management and development to become a tourist attraction that can attract visits. Tourist visits to tourist objects cannot be separated from tourist attractions that attract tourists to visit these objects. The tourist attraction is the main factor for tourists visiting a destination (Aprilia et al. 2017).

The Indonesian government continues to promote the development of the tourism sector, especially nature-based tourism (NBT). NBT, also known as ecotourism, is defined as responsible travel to natural areas that conserves the environment, sustains the wellbeing of local people, and involves interpretation and education (IETS 2015). The community's need for natural recreation tends to increase, making NBT one of the major choices for visitors (Kompas 2020). Because of its natural beauty and exotic culture, NBT is rapidly growing in the Southeast Asia region (An et al. 2019). For example, Indonesia's Komodo National Park sees an 18% increase in visitors every year on average (Erb 2015). Meanwhile, Thailand's national parks receive over 13.2 million tourists per year, approximately 16% of all tourists visiting the country (Phumsathan 2010).

Most NBT destinations are located in protected areas (Spenceley et al. 2015). In tropical regions, protected areas are primarily located in forest ecosystems. Forest ecosystems with their biodiversity can be used as a significant capital in developing NBT. Therefore, nature-based tourism is developed to integrate travel and conservation industries as a unified program that encourages tourists to be more sensitive and respectful to the environment. The greater the number and quality of visitors, the more significant it is in generating foreign exchange, forest management, and its role in protecting biodiversity.

In Indonesia, one of several forms of site-level forest management is carried out by the Forest Management Unit (FMU). The ultimate goal of FMU is to manage forest

sustainability, provide welfare for the surrounding community, and generate income so that they can be independent. Forest management must increase community income, expand employment and business opportunities and improve forest functions for environmental sustainability by providing tourist attractions and facilities (Erwin 2013; Nurdela and Ichwandi 2015). Therefore, FMU must be creative in utilizing the potential of natural resources in their area to generate income, one of which is by developing natural tourism.

*Tembawang* is one of the land management systems traditionally practiced by the Dayak tribe in West Kalimantan. *tembawang* is considered unique ecosystem management because it has very high socio-economic and cultural values and high conservation importance in terms of preserving biodiversity (Astiani et al. 2016; Roslinda et al. 2017). *tembawang* can be classified as a forest garden because it looks like a forest from a distance and contains various trees with a relatively large diameter to resemble a forest ecosystem. Utilization of *tembawang* can be in the form of area utilization, utilization of environmental services, and collection of non-timber forest products (Zuhud et al. 2014). *tembawang* provides various benefits which improve the welfare of the community. Beyond its traditional uses, *tembawang* can be developed as a potential object for ecotourism through conservation, education, economy, recreation, and community participation. Ecotourism in *tembawang* is believed that it could maintain and improve the functions of the ecosystem to achieve sustainability of natural resources for the next generation.

There is no information about natural-based tourism potential in *tembawang* scientifically. *tembawang*s in Sanggau District, especially in the Sanggau Timur FMU, are mainly located in state forest areas. Because the community has managed these lands for generations, their sustainability is maintained so that FMU can develop them as a natural tourist attraction. The Sanggau Timur FMU initiate to utilize *tembawang* as an alternative to nature-based tourism. Thus, this study aimed to assess the potential of *tembawang* in Kampung Lama, Sanggau Timur FMU to be developed as a tourist attraction.

## MATERIALS AND METHODS

### Study area and period

This study was conducted in *tembawang* Kampung Lama in Rabakuan hamlet, Tanggung Village, Jangkang Subdistrict, Sanggau District, West Kalimantan which is located at 110°43'30.108"E 0°31'7.824"N (Figure 1). *tembawang* Kampung Lama has an extent of 2 ha and has natural beauty and high biodiversity with local people still practicing traditional culture and farming. This study was conducted from June to November 2021.

The community is native Dayak Jangkang ethnicity. *tembawang* Kampung Lama was formerly a community settlement. Because of the construction of provincial roads, the settlement was moved since it was very close to the road. The previous settlement was abandoned and planted

with various types of fruit and woody trees by each family as a marker of land ownership.

### Data collection procedure

The research was conducted in *tembawang* Kampung Lama and Rabakuan hamlet. Data and information collection were conducted by surveying the studied area and interviewing respondents using structured questionnaires. Primary data was collected by survey method with the following techniques: (i) Structured interviews using a questionnaire with respondents, i.e., 30 households in the Rabakuan hamlet as samples. (ii) Direct observation and documentation in the *tembawang* Kampung Lama to observe objects considered potential and attractive to be developed as ecotourism.

The variables analyzed in this study referred to the Operational Areas and Objects Analysis Guidelines for Natural Tourism Attractions (ODTWA) published by Director General of Forest Protection and Nature Conservation (2003). The components recorded and assessed were attractiveness, accessibility, accommodation, supporting facilities, and infrastructure. The criteria and indicators used to assess the potential of *tembawang* Kampung Lama as an ecotourism object are presented in Table 1.

The calculation for each of these criteria used a tabulation in which the value of each criterion was obtained from the assessment by respondents and researchers. For example, the criterion of attractiveness was given a score of 6 because it is the main factor for someone to carry out tourism activities. Accessibility was given a 5 because it is an important factor supporting tourists. Accommodation and facilities/infrastructure were given a weight of 3 because they support tourism activities. The following formula was used to calculate the number of scores for one ODTWA assessment criteria according to Ginting et al. (2015):

$$S = N \times B$$

Where:

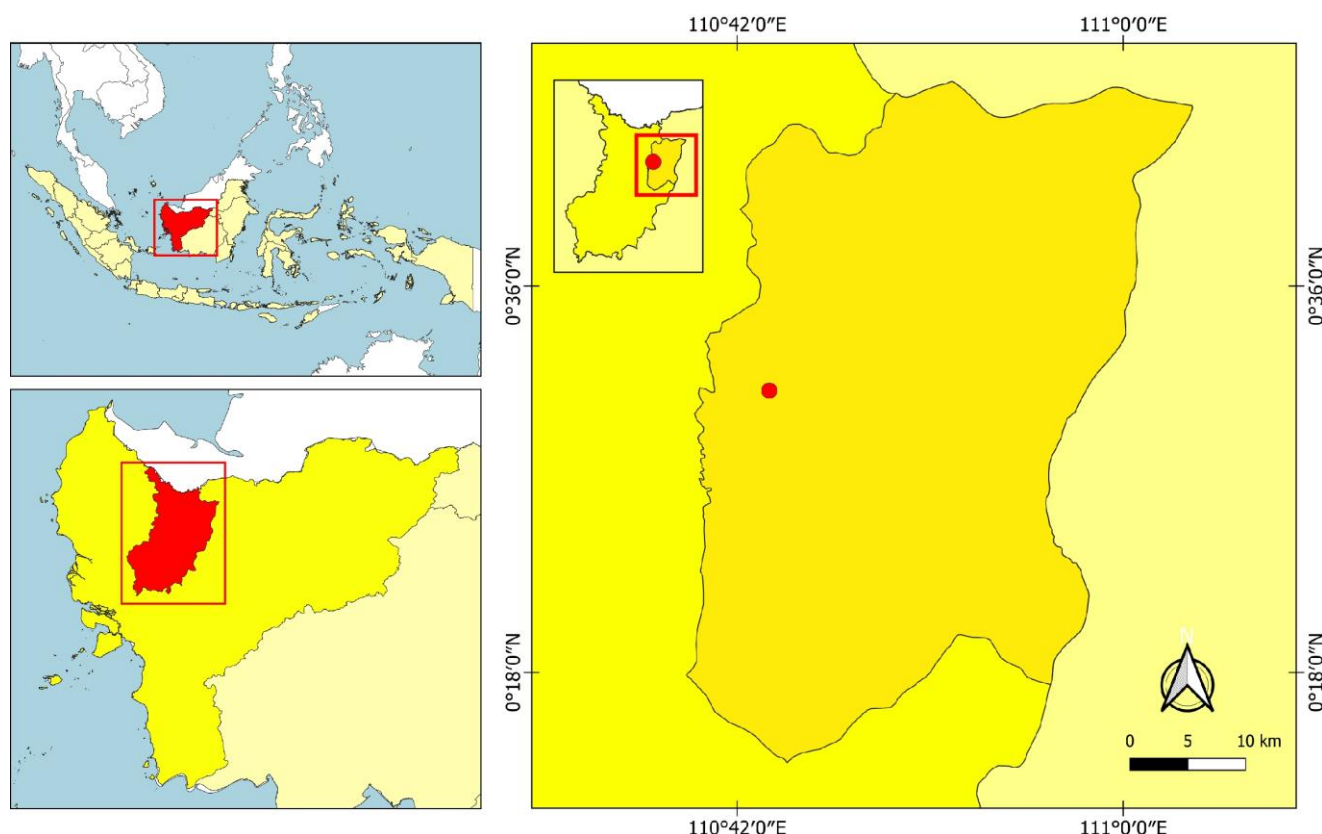
S = Score or value of a criterion

N = The total value of the indicators in each criterion

B = Weighted value

The values of each criterion of the potential of the *tembawang* Kampung Lama area for tourism objects were classified according to the following rules: (i) Attractiveness: Good: >993-1260; Moderate: >724-993; Poor: 456-724. (ii) Accessibility: Good: >1000-1300; Moderate: >700-1000; Poor: 400-700. (iii) Social economic condition: Good: > 975-1300; Moderate: > 650-975; Poor: 325-650. (iv) Accommodation: Good: > 140-180; Moderate: > 100-140; Poor: 60-100. (v) Facilities and infrastructure: Good: >440-600; Moderate: >280-440; Poor: 120-280. (vi) Availability of clean water: Good: 730-900; Moderate: 560-730; Poor: 390-560.

The value of each criterion was averaged and the total value was obtained. The potential of *tembawang* Kampung Lama as an ecotourism object is assessed by assigning each final value to the category as presented in Table 2.



**Figure 1.** Map of study area in *tembawang* Kampung Lama, Sanggau District, West Kalimantan

**Table 1.** Description of criteria and indicators used to assess the potential of *tembawang* Kampung Lama as an ecotourism object

Criteria	Indicators	Weight
Tourist attraction	The beauty	6
	Sensitivity	
	The number of natural resources that stand out	
	Cleanliness of the location	
	Security	
	Convenience	
	Vulnerability	
	Uniqueness	
Accessibility	Road condition	5
	Distance from city	
	Road type	
	Traveling time	
Social economics	Spatial	5
	Land status	
	Livelihood	
	Education	
Accommodations	Number of accommodations	3
	Number of rooms	
Supporting facilities & infrastructure	Supporting infrastructure	3
	Supporting facilities	
Availability of clean water	Volume	3
	Water source distance	
	Ease of flow	
	Eligibility of consumption	
	Continuity	

**Table 2.** Category of potential ecotourism assessment based on the total value

Total value	Ecotourism potential assessment	Category
660-879	Good potential to be developed	A
480-659	Moderately potential to be developed	B
281-479	No potential to be developed	C

Source: Director General of Forest Protection and Nature Conservation (2003)

### Ecotourism Potentials in *tembawang* Kampung Lama

#### *Tourist attraction*

A tourist attraction is one of the essential components of tourism that encourages tourists to visit a tourist destination. Types of tourist attractions consist of natural, cultural, and artificial tourist attractions with uniqueness, beauty, and value. Natural beauty is the principal capital in attracting tourists to come to visit, particularly in ecotourism. *tembawang* Kampung Lama has a natural beauty that resembles a natural forest with various forest trees. There is a cascade around the *tembawang* area, namely Riam Odong, which has become a tourist spot for the community around the sub-district..

One biodiversity element that has the potential as an attraction is the belian/ulin tree (*Eusideroxylon zwageri*), an endemic species to Kalimantan, which is listed as

Vulnerable under IUCN Red List although it is not included in Indonesia regulation as protected species based on PermenLHK P.106/2018. Various other tropical forest plants can also be found in *tembawang* Kampung Lama, such as various types of Dipterocarps and fruit-producing trees. The list of tree species is presented in Table 3. In addition, there are unique types of flora and fauna, namely orchids, palms, rattan, various types of medicinal plants, ornamental plants, and fauna such as various types of birds, monitor lizards, squirrels, and others.

The characteristics of attractiveness in *tembawang* Kampung Lama are described as follows:

#### Natural beauty

The natural beauty of *tembawang* Kampung Lama can attract tourists to visit. *tembawang* is an orchard of the Dayak community (Roslinda et al. 2017; Astiani et al 2016; Jong et al. 2001). Various types of trees and understorey plants form *tembawang* as a miniature natural forest that can provide an attractive beauty to look at and enjoy. During the fruiting season, fruit harvest tours can be an alternative. In *tembawang* Kampung Lama there are also small rivers that add an atmosphere of exotic beauty to be

enjoyed (Figure 2). There is a cascade of small rivers with clean water in the upstream area, which can be added to the existing cascade tourism. The aesthetic of a tourism destination should also be considered when evaluating the tourist experience, as it has been found to be the most important factor for tourists (Dodds et al. 2010).

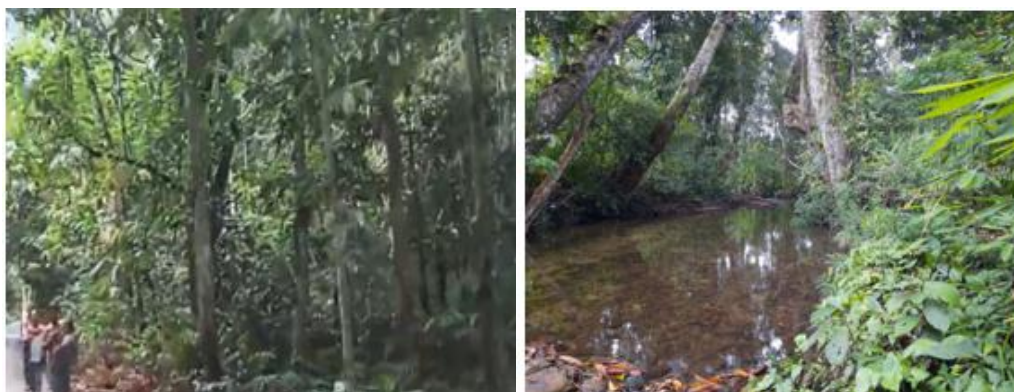
#### Sensitivity

Sensitivity to existing natural resources is one element to attract tourists. The elements of sensitivity to natural resources based on the Guidelines for the Assessment of Natural Tourist Attractions include the value of knowledge, cultural/historical values, medicinal values, and belief values. The existence of belian/ulin trees and other tropical tree species has the potential for education to learn how to conserve and restore the forest. The formation of the *tembawang*, which originated from a settlement moving away from the road is a unique history because so far, various studies have stated that the formation of *tembawang* is due to people moving to open fields in new places or disease outbreaks. In *tembawang* Kampung Lama there is an *ensurai* tree (dipterocarp) where the community performs the traditional ritual of *tolak bala* (Figure 3).

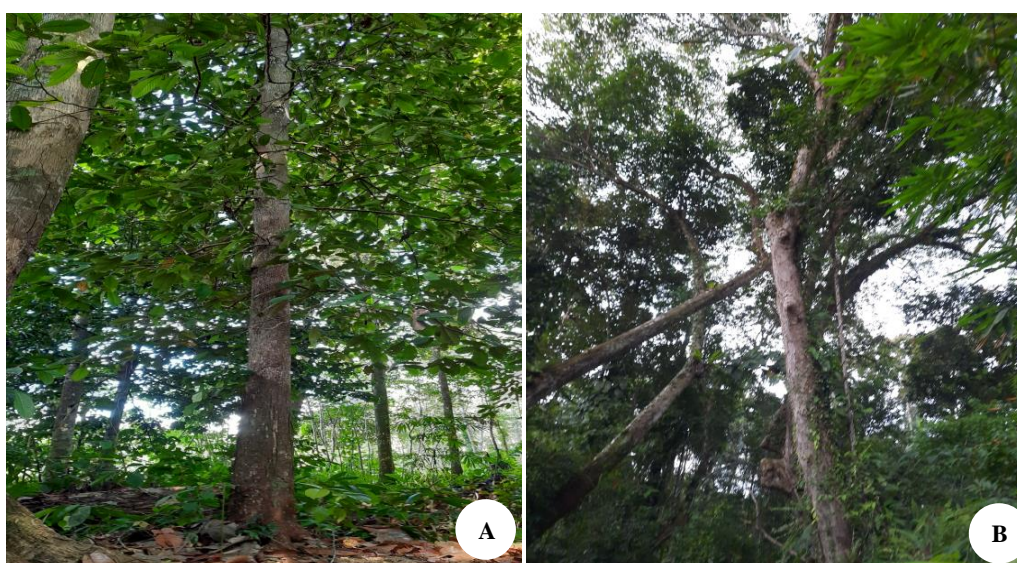
**Table 3.** Tree species documented in *tembawang* Kampung Lama, Sanggau District, West Kalimantan, Indonesia

Local name	Scientific name	Family
Asam Pelam	<i>Mangifera</i> sp.	Anacardiaceae
Asam Mawang	<i>Mangifera pajang</i>	Anacardiaceae
Asam Mantan/Lomantan	<i>Mangifera foetida</i>	Anacardiaceae
Asam Raba	<i>Mangifera</i> sp.	Anacardiaceae
Belete/Rambutan	<i>Nephelium lappaceum</i> L.	Lappaceum
Belitik Ntaman/Kuning	<i>Nephelium</i> sp.	Lappaceum
Belimbing Darah/Ucong	<i>Baccaurea angulata</i>	Oxalidaceae
Belimbing Wuluh/Tunjuk	<i>Averrhoa bilimbi</i>	Oxalidaceae
Belian/Tas	<i>Eusideroxylon zwageri</i>	Lauraceae
Cempedak/Tebudak	<i>Artocarpus integer</i>	Lauraceae
Durian Lokal	<i>Durio zibethinus</i>	Malvaceae
Durian Tembaga	<i>Durio</i> sp.	Malvaceae
Jambu Air	<i>Eugenia</i> sp.	Myrtaceae
Jambu Bol/Laka	<i>Syzygium malaccense</i>	Myrtaceae
Jambu Monyet/Monuk	<i>Bellucia axinanthera</i>	Myrtaceae
Jengkol	<i>Archidendron pauciflorum</i>	Fabaceae
Kabu	<i>Ceiba pentandra</i>	Malvaceae
Kapul/Gurap	<i>Baccaurea borneensis</i>	Phyllanthaceae
Kelampai	<i>Elateriospermum Tapos kelampai</i>	Euphorbiaceae
Kesurai/Kayu Ara	<i>Ficus</i> sp.	Moraceae
Langsat/Rosat	<i>Lansium domesticum</i>	Meliaceae
Mangga	<i>Mangifera indica</i>	Anacardiaceae
Manggis/Sikup	<i>Garcinia mangostana</i>	Clusiaceae
Mentawa	<i>Artocarpus anisophyllus</i>	Moraceae
Nangka	<i>Artocarpus heterophyllus</i>	Moraceae
Nyatu/Nyotu	<i>Palaquium callophyllum</i>	Sapotaceae
Petai Unggul	<i>Parkia speciosa</i>	Fabaceae
Peluntan/Daloi	<i>Artocarpus sericicarpus</i>	Moraceae
Pulai/Pelaik/Jita	<i>Alstonia scholaris</i>	Apocynaceae
Rambutan Hutan/Sibo	<i>Castanea argentea</i>	Sapindaceae
Rambai	<i>Aporosa arborea</i>	Euphorbiaceae
Ruko/Duku	<i>Lansium parasiticum</i>	Meliaceae
Tekawai	<i>Durio kutejensis</i>	Malvaceae
Tengkawang/Engkawang	<i>Shorea stenoptera</i>	Dipterocarpaceae
Tasam/Bingan/Terap	<i>Artocarpus odoratissimus</i>	Moraceae





**Figure 2.** Natural beauty of *tembawang* Kampung Lama, Sanggau District, West Kalimantan



**Figure 3.** Tree species that occur in *tembawang* Kampung Lama: (A) Belian (*Eusideroxylon zwageri*); (B) Ensurai (Dipterocarpaceae))

This traditional ceremonial activity is carried out when problems occur or someone is affected by disease. The surrounding community holds a traditional ceremony to apologize to *Jubata* for human behavior towards irresponsible actions or interference from other creatures. In *tembawang* Kampung Lama, there are many types of plants that have the potential to be used as medicine, including illipe nut oil as a remedy for itching, *bajakah*, *tabar basi* leaves as a cure for ringworm, and other plants.

### Prominent natural resources

In *tembawang* Kampung Lama, the natural resource that stands out is flora diversity. There are various flora species with various levels of strata and sizes so that their composition forms a tropical forest. In addition, the geology that composes it is also quite prominent due to the cascade in the upstream part of *tembawang*, making it attractive and has the potential to be developed as a tourist area. A

### Air and location cleanliness

The cleanliness of air and location based on the Guidelines for the Assessment of Natural Tourist

Attractions include residential areas, garbage, animals, natural phenomena, vandalism and industry. It is an essential factor and can attract tourists to visit. *tembawang* Kampung Lama is still very natural, making visitors feel comfortable when traveling. Residential settlements are far away from the *tembawang*, thus the wastes and pollution resulting from the settlement, including livestock, do not disturb the cleanliness of the air and location. The presence of existing animals does not affect the cleanliness of the area because they are wild animals that are unique to the area. There is also no vandalism found in the studied area.

### Security

Security makes tourists feel safe and secure when traveling. Based on the respondents' assessment, the security at *tembawang* Kampung Lama is excellent. There are no crimes and illegal activities such as illegal logging, since the *tembawang* area is protected and maintained. The trees can grow well because they consider them and the *tembawang* as an important asset. Other security risks, such as social conflict and the risk of diseases including malaria, are relatively low.

### Convenience

Convenience is a crucial aspect of a tourist attraction. The convenience offered at tourist sites will increase the interest of tourists to come back to these locations. This sense of convenience can be formed from being free from unpleasant odors, vehicle traffic, and cool air. *tembawang* Kampung Lama has these criteria so that it has the potential to attract tourists to visit and enjoy the cool air and enjoy the unspoiled natural scenery.

### Area vulnerability from encroachment, theft and fire

The elements of area vulnerability include encroachment, fire, disturbance to flora and fauna and invasion of alien species of flora and fauna. In *tembawang* Kampung Lama there has never been any encroachment, theft, or fire because the area is well guarded and managed. Likewise, disturbances to flora and fauna have never been carried out by outside communities or local communities, while planting activities of various types of plants are carried out by the community according to the needs of each owner.

### The uniqueness of natural resources

The unique elements of natural resources based on the Guidelines for the Assessment of Natural Tourist Attractions include flora, fauna, caves, and waterfalls.

*tembawang* Kampung Lama is unique in that it is a source of germplasm for belian trees and it has cascades that can become the primary destination for nature tourism. Inside the *tembawang*, there is a stream that is not too big but cool and clear. There are also various types of flora that can be found, including the unique ensurai tree, meranti tree, agarwood tree, palm, orchid and plants to be used as home garden decorations (Figure 4). Many birds, butterflies, squirrels, and other animals also exist.

### Supporting elements

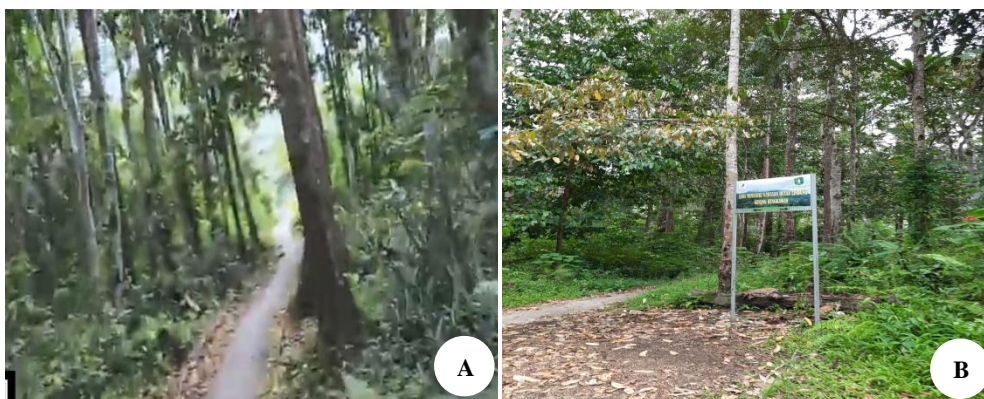
Tourism development must pay attention to various supporting elements, including accessibility, socio-economic conditions, accommodation, facilities and infrastructure, and the availability of clean water. The description of each element is described below.

### Accessibility

Accessibility is an indication of the easiness of an object to be reached. Accessibility to *tembawang* Kampung Lama can be reached by road, and the road conditions to the location vary from good roads to bad roads. From the provincial capital Pontianak, it takes  $\pm 6.5$  hours to get to the tourist attraction location, with the distance between Pontianak and Jangkang District  $\pm 280$  km. *tembawang* Kampung Lama can only be passed by four-wheeled vehicles.



**Figure 4.** Several plants are found in *tembawang* Kampung Lama with the ornamental and decorative aspect



**Figure 5.** Accessibility to: (A) *tembawang* Kampung Lama; (B) Odong cascades



The accessibility assessment included several elements, namely the condition and distance of the road, the edge of the road, and travel time from the city center. The assessment elements were road conditions and distances, and road conditions < 5 km from the tourist attraction location were carried out in the Rabakuan hamlet. The road has already been connected to a cement road (Figure 5). The field assessment resulted in a score of 675 (B).

### Socio-economic conditions

Socio-economic conditions need to be assessed because it is very important in supporting the development of a location as a tourist attraction. The assessment was carried out at 5 km from the area boundary or the closest distance to the object. The elements assessed include spatial planning of the object area, land status, livelihoods, and education. *tembawang* Kampung Lama has clear spatial plans and boundaries, and all residents of the hamlet recognize each other. There are 38 households that own the *tembawang* and every household recognizes the boundary of each ownership. *tembawang* is recognized as customary land, and ownership has been clearly regulated.

Most of the livelihoods of the people are rice farmers (Figure 6). They make a living by farming and gardening, although some of them work as teachers, traders, and others. Rice farming activities are carried out as the main activity, making Rabakuan hamlet the rice barn in Jangkang Subdistrict. In terms of formal education, the community around the *tembawang* has a low education level in which the majority of them graduated from elementary school to junior high school. People with an education equivalent to senior high school and the university is limited. The educational facilities in the village are public elementary schools, while junior and senior high schools are located in the sub-district capital.

### Accommodation

Another important element in tourism is accommodation facilities as a place to rest or stay in tourist destinations (Eridiana 2012). Around *tembawang* Kampung Lama there is no accommodation facility including in the form of lodging because outside visitors do not know the tourist attraction area. Meanwhile, visitors who carry out activities such as conservation activities, research, and others stay in community housing.

### Supporting facilities and infrastructure

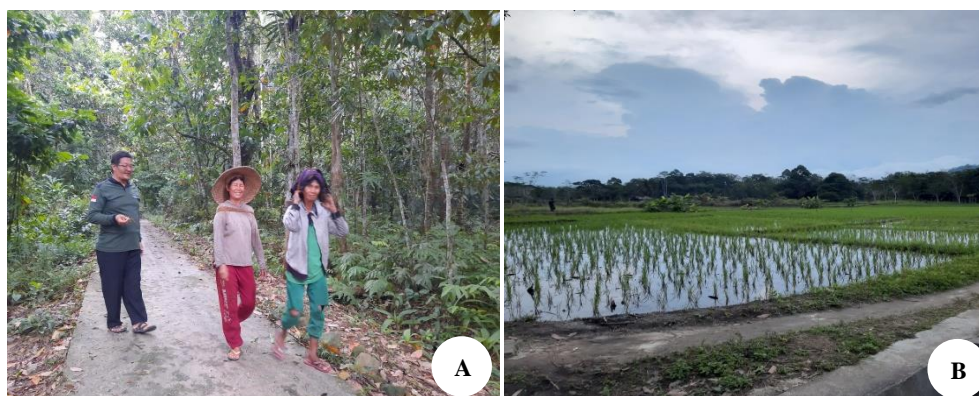
Supporting infrastructure is one of the factors that can support the convenience and comfort of visitors in tourism activities. The criteria for supporting infrastructure are assessed from a 10 km radius of *tembawang* Kampung Lama. Supporting infrastructure assessed included the post office, electricity network, drinking water network, and telephone network. Meanwhile, supporting facilities included restaurants, shopping centers/markets, banks, shops, souvenirs and public transportation. Supporting infrastructure facilities that can be found around *tembawang* Kampung Lama are the electricity network, drinking water network, shops, and public transportation. Meanwhile, those not yet available include post offices, banks, restaurants, shopping centers/markets, souvenirs and telephone networks.

### Availability of clean water

Clean water is a factor that must be available in developing a tourist spot both for management and service (Dwijayani and Hadi 2013). The volume of clean water around *tembawang* Kampung Lama is considered good (Figure 7). The distance from the water source to the location is very close, from 0-1 km and the water is always available throughout the year despite the dry season. Also, the water is generally consumable, although it is necessary to do a simple treatment such as boiling.

### Assessment of the attractiveness of *tembawang* Kampung Lama

The attractiveness assessment aims to analyze *tembawang* Kampung Lama's feasibility as a natural tourism object. The results of the attractiveness assessment are presented in Table 4. Based on the assessment, the final score is 605.99, meaning that *tembawang* Kampung Lama has a moderate potential to be developed (B) into a tourist attraction. Natural attraction in *tembawang* Kampung Lama could be developed using the ecotourism model. Its condition could attract tourists and the management was done by the society and based on local nature and culture (Nofiarli 2018). Ecotourism is responsible for travel to natural areas that conserves the environment and improves the economy, culture and local people's tradition (Tuwo 2011). In ecotourism, the principle of preservation and conservation is the key when preparing policies, strategies and main tourism development programs (Timothy and Boyd 2003).



**Figure 6.** The livelihoods of the community around *tembawang* Kampung Lama: (A) People go to rice fields; (B) Typical rice fields in the area



**Figure 7.** Condition of clean water in *tembawang* Kampung Lama, Sanggau District, West Kalimantan

**Table 4.** Attractiveness assessment of *tembawang* Kampung Lama as an ecotourism object

Element	Value	Weight	Category
<b>Main element of attractiveness</b>			
Natural beauty	29.17		
Sensitivity	24.83		
Prominent natural resources	24.83		
Air and location cleanliness	27.00		
Security	17.67		
Convenience	18.83		
Area vulnerability	6.83		
Uniqueness of natural resources	14.33		
Total	163.49	980.94	Good
<b>Supporting element</b>			
Accessibility	135.00	675.00	Good
Socio-economic condition	90.00	450.00	Poor
Accommodation	10.00	30.00	Poor
Supporting facilities and infrastructure	200.00	600.00	Good
Availability of clean water	150.00	900.00	Good
<b>Value x Weight</b>		<b>3635.94</b>	
<b>Mean</b>		<b>605.99</b>	<b>B</b>

Source: Data analysis 2021

The development of *tembawang* Kampung Lama as a natural tourist destination can be done by creating tour packages. The uniqueness of forest landscapes and scenery and the relaxing micro-climate conditions are two essential attributes determining forest-based tourism's attractiveness (Lee et al. 2010). Tourism activities that can be offered in *tembawang* Kampung Lama include enjoying the natural beauty, cultural and educational tourism by introducing flora typical of tropical forests, and planting rare plants, especially belian trees. To make *tembawang* Kampung Lama as a tourist attraction in East Sanggau Forest Management Unit, integration between preservation and recreation functions is needed, for example by creating linkage with the location of the Odong cascade, fields, rice fields, and rubber plantations around the *tembawang*. Tour packages can attract tourists to visit, such as Villa Kancil Kampung Soenda, West Java where it integrates various attractions, including a panoramic view of the landscape in

the form of paddy fields and fish ponds which offer tranquility and swimming activities with space to play on the water rides (Syarifuddin 2020).

In conclusion, *tembawang* Kampung Lama has moderate potential to be developed as a natural tourist destination because of its beauty, uniqueness and sensitivity of its resources. The safety and cleanliness of the location also support tourists to visit. Meanwhile, better accessibility will make it easier for nature tourism enthusiasts to reach the *tembawang*. The limited accommodation facilities can be developed slowly by involving the community around the *tembawang*, such as providing local people houses for homestay. The development of *tembawang* Kampung Lama as a natural tourist destination can be done by making tour packages around the Rabakuan hamlet that integrate a landscape consisting of rice fields, *tembawang* and secondary forest in the hills to provide a variety of tourist visits. Several



cascades around the *tembawang* are also a potential attraction to be considered in the tour packages.

## ACKNOWLEDGEMENTS

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