

## STAKEHOLDER IDENTIFICATION FOR COLLABORATIVE MANAGEMENT OF ECOTOURISM AND PROBOSCIS CONSERVATION

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### Abstract

*In developing countries, ecotourism naturally involves many j with contrary interests which could potentially disrupt ecotourism plans and programs. Therefore, stakeholder collaboration is essential. The Hitam river is located in Borneo Island of Indonesia where proboscis monkeys are naturally inhabited. Hitam River Ecotourism Destination (HRED) has been established by a group of local people since 2010. However, limited number of tourist visits have caused lack of budget to develop HRED as well as proboscis monkey conservation and income provision for local people. This study aims to identify potential stakeholders and recognize their position and roles for HRED improvement and proboscis monkey conservation. The research method in this study are field observations, literature studies and in-depth interviews. The results show that most of the Hitam riverbank areas are owned by individuals instead of protected areas. Influence source dominantly owned by stakeholders in this study was organization, while almost all stakeholders show their interest to information function. There are 20 stakeholders identified in this study: 6 key players, 10 subjects, 4 crowds. In conclusion, there are potential stakeholders for collaboration to develop ecotourism in Hitam River, to conserve proboscis monkeys and to provide alternative income for local people.*

**Keywords:** *Ecotourism; Stakeholder collaboration; Proboscis monkey conservation; Influence interest grid*

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### Introduction

Ecotourism has been greatly preferred for tourism development in developing countries including Indonesia. Ecotourism is believed to improve environmental, economic and socio-cultural benefits from tourism [1, 2]. While conventional mass tourism has resulted in environmental negative impacts, ecotourism promotes conservation as well as sustainable development [3]. In the ecotourism principles, local people are actively involved to conserve the tourist destination as well as maintaining tourist visitation to derive economic benefits [4], [5]. Although it globally introduced in 1980s [3], ecotourism in Indonesia might have been implemented several years before. Way Kambas National Park, Lampung Province was considered as the emergence of ecotourism in this country when it began to receive international and local tourists in 1985 [6]. Other studies also revealed that there were other ecotourism destinations which opened earlier in 1970s in this country, such as: Bahorok Orangutan Rehabilitation Center in Bukit Lawang, Sumatera, Komodo National Park and

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Mount Bromo [7]. These destinations were visited by travelers with special preferences: adventure or nature exploration with minimum tourist facilities.

In Indonesia, ecotourism is a potential for forest conservation and poverty alleviation. The total designated forest areas in Indonesia are about 120 million hectares or about 64% of the total 188 million hectares terrestrial area of the country [8]. On the other hand, there are 32.5 million people living in surrounding forest areas: 2.037 villages located inside forest areas and 19.247 villages located surrounding forest borders. These situations result in consistent pressure to the forests; illegal logging, forest fires, and land encroachment [9]. In addition, tourism sector is one of the most important sectors for the economic development in Indonesia. In 2017, tourism sector in this country contributed IDR 536.8 trillion or 4.1% of total country's GDP and it also provided 12.7 million jobs [10]. In addition, there were about 15.8 million foreign tourists visiting Indonesia in 2018 [11], increasing from only 8.1 million in 2012 [12]. The domestic trips increased significantly to 303.4 million trips in 2018 [12]. In fact, tourism sector was already the second highest country's source of income after palm oil industries in 2016 [13]. Therefore, ecotourism is a potential solution for biodiversity conservation and economic improvement.

Stakeholder collaboration is essential for ecotourism implementations in developing countries including Indonesia. Ecotourism naturally involves many stakeholders with various interests which could potentially disrupt ecotourism plans and programs [14–16]. Stakeholder interests are usually determined by power, leadership, financial capacity, and cultural background [17]. Moreover, there are also typical problems which can be found in developing countries related to tourism development: overlapping authorities, interests or influence among stakeholders [18]. In addition, there are also distrust among the government, corruption and lack of collaboration initiative, which are the main obstacle in the stakeholder collaboration in Indonesia [19]. There is also different understanding in terms of ecotourism definition among relevant stakeholders, which results in different expectations between them [20]. Local communities are often affected due to protected area creation for ecotourism and conservation [21]. Therefore, stakeholder collaboration is important to obtain common goals of ecotourism among relevant stakeholders as well as ensuring marginal and minor stakeholders are involved.

Proboscis monkey (*Nasalis larvatus* Wrumb.) is a primate, endemic to Borneo Island, Southeast Asia. This species has long been categorized as an endangered species based on *The IUCN Red List of Threatened Species* since 2000 due to habitat loss and hunting, which resulted a decreased in population by about 70% in the period of 36 years [22]. By mid-1980s, about 40% of proboscis monkey habitat was already lost, reduced from 2.9 million hectares to 1.8 million hectares [23]. In recent years, proboscis monkey habitat especially in protected areas in Indonesia were still declining due to habitat conversion and human activities: Balikpapan Bay, East Kalimantan [24], Berau Delta, East Kalimantan [25], Gunung Kentawan Natural Reserve, South Kalimantan [26], Balangan District, South Kalimantan [27] and Gunung Palung National Park, West Kalimantan [28]. In Indonesia, proboscis monkeys were also categorized as a protected animal based on a regulation, Ministry of Environment and Forestry Regulation number P.20/2018. Therefore, this species needed to be conserved to prevent extinction.

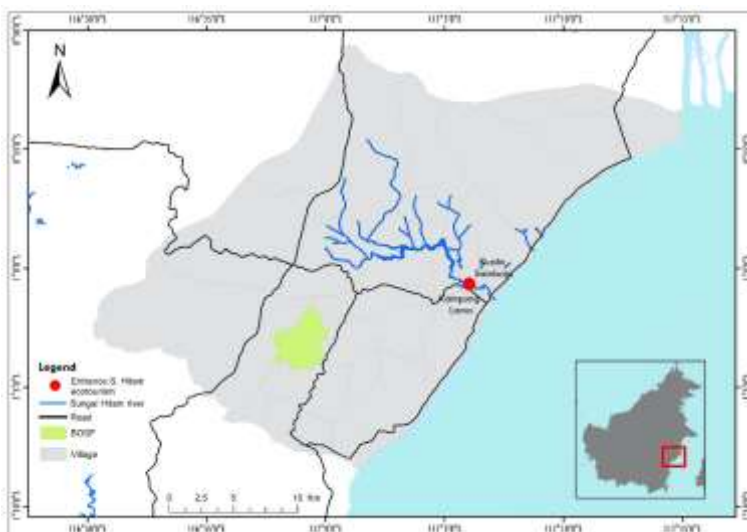
*Hitam* river is a river located in Borneo Island of Indonesia where proboscis monkeys are naturally inhabiting on its riverbank areas. Based on a survey, there were about 143 animals inhabiting 67.6 ha of the riverside areas [29]. However, there are problems threatening to the proboscis monkey habitat in the Hitam River: land-use change due to palm oil plantation and human settlement; acid mine drainage by coal mining activities in the upstream; and poor habitat which are indicated by low density of food plants [30]. Furthermore, based on the land status, the Hitam riverbank areas are a non-conservation area, which results in difficulties for law enforcement and government interventions. Instead, the riverside areas are owned by the local people, which are prone to land cover changes by the owners. Meanwhile, *Hitam* River Ecotourism Destination (HRED) has been established by a group of local people since 2010.

However, limited number of tourist visits have caused lack of budget to develop HRED as well as proboscis monkey conservation and income provision for local people. By considering the problematic situations, therefore, collaborative strategy needs to be implemented by involving relevant stakeholders to improve the HRED. This study aims to identify potential stakeholders and recognize their position and roles for HRED improvement and proboscis monkey conservation.

## Experimental part

### *Study Area*

The Hitam River is located in Samboja sub-district, Kutai Kartanegara district, East Kalimantan Province of Indonesia (Fig. 1). The Hitam river is about 2.6km length and it is part of Samboja River, which covers 430km<sup>2</sup> watershed areas [31].



**Fig. 1.** Location of Hitam River Ecotourism Destination.

Meanwhile, HRED was established in 2010 to provide alternative destination for tourists who visited Borneo Orangutan Survival Foundation (BOSF). The BOSF was a non-governmental organisation established for orangutan rehabilitation and conservation. To raise funding, the BOSF was opened for tourism and it regularly visited by foreign tourists or local visitors. The main attraction in HRED is travelling across the Hitam River using a small and medium motorboat with capacity of 6-8 passengers. Using that boat, the visitors are offered to see the proboscis monkey activities in the early morning when they were feeding or in late afternoon when they were about to sleep. The additional attraction is visiting fishermen's village in the Kuala Samboja village, ended up in the Tanah Merah beach in the downstream. From the starting point in the Hitam River port, it takes about 1.5-hour travel. In this port, there are six motorboats and a toilet as the main facilities.

The ecotourism destination in the Hitam River could be accessed from the nearest international airport in the city of Balikpapan, East Kalimantan, Indonesia for about 2-hour travel. The downstream of the river is located near Tanah Merah beach in Samboja District, Kutai Kartanegara Regency. The Hitam River is located in the two villages: Kampung Lama and Kuala Samboja. The proboscis monkey habitats in the Hitam River are located mainly on the river side, close to the settlement areas in both villages, surrounded by palm oil plantation

and coal mining areas. Therefore, this area is a refuge area not only for the proboscis monkeys but also for the other animals.

### **Data collection**

Primary and secondary data was collected from February 2018 to June 2018 by conducting field observations, literature studies and in-depth interviews to key persons of each stakeholder. Field observations were conducted to collect information about current situations in the Hitam River. Meanwhile, literature studies were conducted to determine initial stakeholders that potentially influence the management of Hitam River ecotourism, which subsequently followed by a snowball sampling to search related key stakeholders. The search of key stakeholders was stopped when the stakeholder recommended the same stakeholder. This was for ensuring that all potential stakeholders were identified and the information was completely collected.

Interview is chosen to collect data in this study because this method allows us to access and obtain information from the appropriate key informants representing in each stakeholder, i.e., head of institutions or leader of organizations. Although focussed group discussion (FGD) is the common method to gather information in stakeholder analysis studies, FGD requires considerable resources for renting venue, food and beverages for participants and materials for discussion facilitation [32, 33]. Moreover, in the context of local area of Kutai Kartanegara District, it is challenging to gather head of government institutions or local organizations in the FGD event due to geographical factors: long distance, poor accessibility and transportation. Thus, in-depth interview was considered to be reliable method in collecting information about stakeholder's interest-influence level in this study. This method gave flexibilities for both research team and key informants in deciding time and venue for interview.

Interview was recorded using a digital voice recorder combined with note taking. The questions were a combination of open ended and closed questions. The open questions were intended to give freedom to the interviewees in giving opinions and answering the questions. Meanwhile, closed questions were intended to measure the influence and importance level of each stakeholder in relation to Hitam River management. Generally, the questions in this study were designed to determine the levels of influence and interest of the stakeholders.

### **Data analysis**

After the stakeholders were identified and interviewed, the processed data were analysed using analytical categorisation to determine influences and interests of identified stakeholders [32]. In this analysis, stakeholders are categorized based on their interest and influence to the Hitam River and their potential contribution in the improvement of HRED and proboscis monkey conservation. These stakeholders are grouped into four categories: key players, subjects, context setters and crowds and subsequently depicted on an interest-influence matrix (Fig. 2) [33]. Stakeholders attaining the high level of both influence and interest are categorized as the 'key players', indicating that these stakeholders have significant impacts to the Hitam River ecosystem and HRED. Meanwhile, 'subjects' are stakeholders obtaining high level of interest but low level of influence. On the other hand, stakeholders having low levels of interest, but high level of influence were called "context setters". In addition, crowds were stakeholders whose have low levels of both influence and interest.

Measuring the stakeholders' level of influence and interest in the interest-influence matrix in this study was based on a study conducted by *M.S. Reed et al.* [32]. Employing an ecosystem framework, stakeholders' interests are assessed based on their interests to the goods and services provided by ecosystem in the Hitam River areas including in the proboscis monkeys' habitat. In other words, identified stakeholders were analysed based on the number of benefits obtained from ecosystem of the Hitam River. Thus, level of stakeholders' interest is determined based on the number of benefits obtained from the Hitam River ecosystem. There are several ecosystem functions based on a study conducted by *R. de Groot et al.* [34]: regulation, production, habitat, carrier and information functions (Table 1).

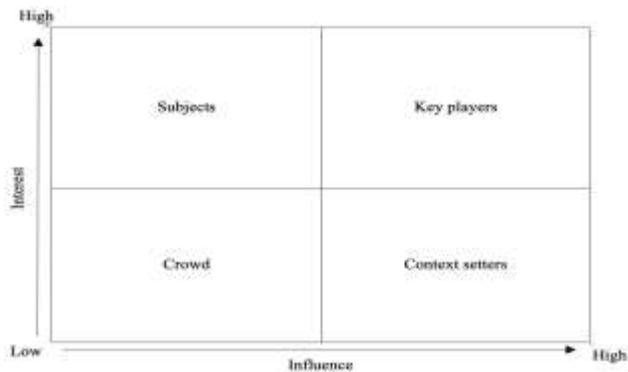


Fig. 2. Stakeholders' influence versus interest grid.

Table 1. List of functions, goods and services of ecosystem from R. de Groot et al [34]

| Ecosystem functions          | Sub-functions                      | Goods and services (examples)  |
|------------------------------|------------------------------------|--|
| <b>Regulation functions</b>  | Gas regulations                    | UVB-protection by O3 (preventing disease); Maintenance of (good) air quality; Influence on climate (see also function 2)   |
|                              | Climate regulations                | Maintenance of a favorable climate (temp., precipitation, etc) for, for example, human habitation, health, cultivation   |
|                              | Disturbance prevention             | Storm protection (e.g., by coral reefs); Flood prevention (e.g., by wetlands and forests)  |
|                              | Water regulation                   | Drainage and natural irrigation  |
|                              | Water supply                       | Provision of water for consumptive use (e.g., drinking, irrigation and industrial use)   |
|                              | Soil retention                     | Maintenance of arable land; Prevention of damage from erosion/siltation  |
|                              | Soil formation                     | Maintenance of productivity on arable land; Maintenance of natural productive soils  |
|                              | Nutrient regulation                | Maintenance of healthy soils and productive ecosystems   |
|                              | Waste treatment                    | Pollution control/detoxification; Filtering of dust particles (air quality); Abatement of noise pollution  |
|                              | Pollination                        | Pollination of wild plant species; Pollination of crops  |
| <b>Habitat functions</b>     | Biological control                 | Control of pests and diseases; Reduction of herbivory (crop damage)  |
|                              | Refugium functions                 | Maintenance of biological and genetic diversity (and, thus, the basis for most other functions)  |
|                              | Nursery functions                  | Maintenance of commercially harvested species  |
| <b>Production functions</b>  | Food                               | Hunting, gathering of fish, game, fruits, etc.; Small-scale subsistence farming and aquaculture;   |
|                              | Raw materials                      | Building and Manufacturing (e.g., lumber); Fuel and energy (e.g., fuel wood); Fodder and fertilizer (e.g., krill)  |
|                              | Genetic resources                  | Improve crop resistance to pathogens and pests; Other applications (e.g., health care)   |
|                              | Medicinal resources                | Drugs and pharmaceuticals; Chemical models and tools; Test and essay organisms   |
|                              | Ornamental resources               | Resources for fashion, handicraft, jewellery, pets, worship, decoration and souvenirs (e.g., furs, feathers, ivory, orchids, butterflies, aquarium fish, shells, etc.) |
| <b>Information functions</b> | Aesthetic information              | Enjoyment of scenery (scenic roads, housing, etc.)   |
|                              | Re-creation                        | Travel to natural ecosystems for ecotourism and (recreational) nature study  |
|                              | Cultural and artistic information  | Use of nature as motive in books, film, painting, folklore, national symbols, architect, advertising, etc.   |
|                              | Spiritual and historic information | Use of nature for religious or historic purposes (i.e., heritage value of natural ecosystems and features)   |
|                              | Science and education              | Use of natural systems for school excursions, etc.; Use of nature for scientific research  |

| Ecosystem functions | Sub-functions      | Goods and services (examples)                                |
|---------------------|--------------------|--|
| Carrier functions   | Habitation         | Living space (ranging from small settlements to urban areas) |
|                     | Cultivation        | Food and raw materials from cultivated land and aquaculture  |
|                     | Energy conversion  | Energy-facilities (solar, wind, water, etc.)                 |
|                     | Mining             | Minerals, oil, gold, etc.                                    |
|                     | Waste disposal     | Space for solid waste disposal                               |
|                     | Transportation     | Transportation by land and water                             |
|                     | Tourism facilities | Tourism-activities (outdoor sports, beach-tourism, etc.)     |

Meanwhile, stakeholders’ sources of influence are used to assess the level of influence of identified stakeholders in this study. There are three sources of influence which are owned by stakeholders: personality, property and organisation [35]. It was also suggested to also use instruments of influence to assess the stakeholders’ influence: condign, compensatory and conditioning, but it might inaccurate according to in Indonesian context. For example, condign influence, which enable stakeholders to threat or punish, compensatory influence, which enable stakeholders to give financial or material rewards may be irrelevant in Indonesia because of existing law and regulations. Meanwhile, stakeholders with conditioning influence, which providing them to manipulate belief by using education, propaganda, or advertisement, were also not evident since only few numbers of stakeholders involved in HRED when this study was conducted.

## Results and discussion

### *Stakeholder identification and their support to Hitam River ecotourism destination development*

From literature studies and field observations, results show that there are several stakeholders, which are directly involved in Hitam River Ecotourism Destination (HRED): management board; land owners; and local community figures. After interview to the aforementioned stakeholders, it was revealed there are also several local government institutions in Samboja Subdistrict administrative area: sub-village, village, and district, which indirectly influence to HRED. Further interview had also been conducted to provincial and district government institutions. Interview had been conducted to 26 key respondents, representing 20 key stakeholders identified in this study (Table 2). These stakeholders could be grouped into several main categories: local people; government institutions; private companies; and non-governmental organizations.

**Table 2.** List of identified stakeholders related to Hitam River Ecotourism Destination

| Stakeholders Name                                    | Categories             | Interviewed stakeholder representatives   |
|--|------------------------|---|
| Hitam River Ecotourism Destination (HRED) management | Local people           | 1. Manager;<br>2. A boat operator and tourist guide                             |
| Landowners   | Local people           | 1. One of the landowners with the largest area;<br>2. A landowner               |
| Local community leaders                              | Local people           | 1. The head of local customary institution;<br>2. Local senior community figure |
| Sub-village Leaders                                  | Local people           | 1. Head of RT 1;<br>2. Head of RT 2;<br>3. Head of RT 3                         |
| Government of Samboja Subdistrict                    | Government Institution | 1. Head of Samboja subdistrict;<br>2. Head of development division              |
| Tourism Agency of East Kalimantan Province           | Government Institution | Head of Tourism division  |
| Tourism Agency of Kutai Kartanegara District         | Government Institution | Head of Tourism division  |

**STAKEHOLDER IDENTIFICATION FOR COLLABORATIVE MANAGEMENT OF ECOTOURISM**

| <b>Stakeholders Name</b>                                     | <b>Categories</b>           | <b>Interviewed stakeholder representatives</b> |
|--|-----------------------------|--|
| Kampung Lama village   | Government Institution      | Head of Kampung Lama village                   |
| Kuala Samboja village  | Government Institution      | Head of Kuala Samboja village                  |
| Planning Agency of Kutai Kartanegara District                | Government Institution      | Head of planning division                      |
| Village Empowerment Agency of East Kalimantan                | Government Institution      | Staff of Village Empowerment Agency            |
| Ministry of Environment and Forestry (MoEF) Research Station | Government Institution      | One of researchers                             |
| Provincial representative council of East Kalimantan         | Legislative Institution     | A member of provincial representative council  |
| PT Pertamina (a state-owned oil company)                     | Private Company             | Public relationship officer                    |
| PT PLKK (a waste management company)                         | Private Company             | Public relationship officer                    |
| Marioga Tour and Travel Agent                                | Private Company             | Owner  |
| "Bina Mitra" (Local Youth Organisation)                      | Non-Government Organisation | One of the members                             |
| "Distrik 13" (Local Youth Organisation)                      | Non-Government Organisation | Head of the organisation                       |
| "KNPI" (Local Youth Organisation)                            | Non-Government Organisation | Head of the organisation                       |
| BOSF (Borneo Orangutan Survival Foundation)                  | Non-Government Organisation | Manager of BOSF                                |

Results show that there is no specific division or department responsible for tourism development in Samboja Subdistrict government office. Tourism division is only available in the district of Kutai Kartanegara and East Kalimantan provincial government. Based on the Indonesian Government Regulation No. 17/2018 about Subdistrict, the main duties of subdistrict governments are basic public services, coordinating community development, ensuring public order and security, fostering village governance and simple licensing services. In the Indonesian governmental system, hierarchically, sub-village leader is the lowest government administration, which directly interact with villagers. Above the sub-village leader, there is village leader, followed by sub-district leader, district leader, governor (provincial leader), ministry of internal affair and president in the hierarchical order.

The board management of HRED was established in 2015 based on agreement with Kampung Lama Village government. It consisted total of 10-20 members, but the active members were only few boat drivers due to limited visitors. The members of HRED management were mainly local people who live in the Kampung Lama village. The boat driver is also a tour guide for local visitors only due to his inability to speak English. When the visitors are from foreign countries, the tourist guide is usually from BOSF who is able to speak English as well as Indonesian. There are no marketing activities conducted by the management. There is also no officer who stays at the entrance of Hitam River port. The management only provide a phone number enlisted on a banner at the port. Visitors need to make a phone call when they arrive at HRED or they need to make a reservation prior to the visit. All the members consider that tourism in Hitam River is not a main job due to limited number of visitors. In fact, almost all of the members already have a main job, such as: factory workers, farmers and traders. Boat drivers as well as tour guide are prioritized for the members who do not have permanent job.

Both Tourism agency of Kutai Kartanegara District and East Kalimantan Province are responsible for developing tourism in their areas. Provincial tourism agency has a larger responsibility than district tourism agency due to larger area coverage. However, the Provincial tourism agency have a direct relationship with the central government or the Ministry of Tourism, which gave them more financial access. From the interview, both institutions are

willing to give assistance to develop Hitam River tourist destination, but the HRED management needed to be reorganised into a group namely *Pokdarwis* (*Kelompok Sadar Wisata*/Tourism Aware Group). By formalising the Hitam River management into a *Pokdarwis*, there were some potential benefits provided by both District and Provincial Tourism Agencies: trainings for skills improvement or direct financial benefits for tourism facilities establishment. Provincial Tourism Agency had allocated a total budget of about IDR 8.5 billion in 2020, while District Tourism Agency allocated IDR 11.5 billion in 2019 for several programs: tourism destination development, tourism marketing and partnership and tourism institution development [36, 37]. These programs can be a source of funding for tourist destination operators across East Kalimantan Province.

The study reveals that most of proboscis monkey's habitat in the Hitam Riverbanks are owned by individuals instead of protected areas, which are managed by the government. However, the total number of landowners could not be identified. Many owners who claim the land in the Hitam River areas stay in the other district or province which could not be contacted. As a result, there is no accurate information about the actual number of land owners in the Hitam River. Thus, interview can only be conducted to landowners who stay in nearby Hitam River areas. The study also reveals that several key stakeholders also possess land in the Hitam River areas, such as: local community figures, head of sub-village, head of local customary institution or the local senior community figure. Furthermore, several key stakeholders are also family members of the other stakeholders. For example, the boat operator who had been interviewed in this study has a family relationship with the head of (sub-village) RT 1, who is also one of the landowners in the Hitam River areas.

From the interview, the head of Samboja sub-district stated that his institution fully supported HRED including proboscis monkey conservation. He also stated that HRED could potentially be integrated with the other tourist destinations located in the Samboja subdistrict, such as: *Tanah Merah Beach*, *Pemedas Beach*, and *Batu Dinding Hills*. The subdistrict government could not provide financial assistance for HRED but he could persuade companies that operate in Samboja Subdistrict to provide financial assistance to HRED and proboscis monkey conservation. Compared to the other subdistricts in Kutai Kartanegara District, there are various number of companies that operate in Samboja subdistrict: oil and gas, palm oil, coal mining companies and livestock. The TOTAL, an international oil and gas company, had operated in Samboja since early 1970s, followed by VICO in 1980 [38]. These companies had been taken over by PT PERTAMINA, a state-owned company, after their contract period was ended in 2014-2015 [39]. Meanwhile, the coal mining and palm oil companies started to operate in early 2010.

The Hitam River areas as well as the habitat of proboscis monkeys are mostly located at the administrative areas of Kampung Lama village, including the entrance port of HRED. Meanwhile, the additional feature, which is the fisherman settlement is located at Kuala Samboja village administrative areas. Both of the villages' leaders supported to HRED and proboscis monkey conservation. However, these villages are unable to give financial assistance due to lack of budget. Both Kuala Samboja and Kampung Lama villages are categorized as '*Kelurahan*' in the Indonesian government system. According to the interview with Kuala Samboja leader, significant financial assistance is only given for villages which were classified as '*Desa*' by the Ministry of Internal Affairs. *Desa* is a village where the main occupations of the people is farming. The financial assistance for *Desa* has given a boost to national food production. On the other hand, *Kelurahan* is a village which is located in urban areas. In the past, Samboja Subdistrict was part of Samarinda Municipality, therefore its villages were mainly classified as *Kelurahan*. This is also the main reason why the Village Empowerment Agency of East Kalimantan could not provide assistances for HRED. Village development assistance from the government could only be given to *Desa* by this provincial institution.



Based on the interview with the head division of Kutai Kartanegara Planning Agency, tourism sector development is prioritized by the district government to provide alternative incomes other than mining sectors. Considerable supports for HRED also came from a member of provincial representative council with similar reasons. However, these two stakeholders pay more attention on tourism rather than proboscis monkeys' conservation. Issues related to species conservation seemed unfamiliar for them. On the other hand, one of the researchers from Ministry of Environment and Forestry Samboja research station stated that proboscis monkeys are an endangered animal species and ecotourism in Hitam River is an alternative strategy to conserve the animals due to the habitat status. This institution had conducted studies related to proboscis monkey conservation in this location since 2005. One of the main institution's core studies is providing information related flora and fauna conservation.

Currently, Kutai Kartanegara district as well as East Kalimantan province relied on mining sectors as their primary incomes [40]. Mining sectors, which consisted of coal, oil and gas had contributed about 83% of total district's income [41]. However, mining sectors were considered unsustainable due to their negative environmental damages [42]. Therefore, ecotourism in Hitam River had a great opportunity to get support from the government of Kutai Kartanegara district.

There are several major companies operating in Samboja District: Pertamina, a state-owned oil company; PT Singlurus Pratama, a coal mining company and PT AJB, and a palm oil company. Based on the interview with PT Pertamina, the company supports ecotourism programs and proboscis monkey conservation. The company is also ready to allocate money to contribute to developing HRED using CSR (Corporate Social Responsibility) scheme. However, it required a proposal, or a planning document created by HRED management board to acquire financial support from the company. According to the National Regulation Number 4/2009 about Mineral and Coal Mining (*Undang-undang No. 4 tahun 2009 tentang Pertambangan Mineral dan Batubara*), it is mandatory for private companies to allocate money for developing local economic, called corporate social responsibility (CSR) programs. Meanwhile, from an interview with a public relationship staff of PT PLKK, a waste management company, the company is also ready to support HRED. The company also stated that budget had been allocated to Kampung Lama village using community development scheme for several projects, such as road buliding and mosque renovation. In addition, PT AJB did not respond to the request for an interview for this study.

It is revealed that there are three youth organisations existed in Samboja subdistrict, each of them has different characteristics. *Komite Nasional Pemuda Indonesia* (KNPI/Indonesian Youth National Committee) is established for political purposes. This institution is considered the largest youth organisation in the subdistrict because the KNPI office in Samboja is the branch office of KNPI Central in Jakarta. At the time of the interview, KNPI's main activity was the organization of local elections. KNPI supports the existence of HRED but it is only a normative statement because they do not know how this organisation supported HRED. '*Distrik 13*' is a local non-formal youth organisation established as a discussion forum. This organisation is often invited by the government of Samboja to local forum discussion events. From the interview, this organisation states that Hitam River ecotourism could be the alternative source of income as well as improving local economics. Some members of this organisation were directly involved in managing the Hitam River ecotourism by establishing a souvenir shop in the entrance port. However, the the shop was closed soon after it was opened due to lack of visitors.

From the interview with the '*Distrik 13*', it was revealed that there was a conflict between the boat drivers and some members of youth organisations when the youth organisation attempted to involve in managing the HRED. The boat driver worried that his occupation would be taken over by the younger people. As a result, the '*Distrik 13*' are unable to involve and contribute to the Hitam River ecotourism. Meanwhile, the other youth

organisation, 'Bina Mitra' is inactive, which means that there are no activities conducted by the organisation and its members.

An interview with the manager of BOSF stated that the existence of Hitam River ecotourism has positive impacts for BOSF because it provides an alternative destination for the BOSF visitors, the location is accessible and it could be reached within 10 minutes. Similar reasons are also stated by 'Marioga' a tour and travel company in the interview. The company used to take foreign visitors to West Kutai District, which usually took 12 hours travel by car. In addition, the BOSF manager also suggests improving the communication skills of the tourist guide so that they can actively communicated to foreign visitors.

**Stakeholder influence over Hitam River**

The results show that the source of influence dominantly owned by stakeholders in this study was organisation (Table 3). However, several stakeholders also have more than one source of influences. Other than personality, both local community leader and sub-village leaders are known to have a piece of land in the Hitam River areas. As a result, these stakeholders have higher influences compared to the other stakeholders in this study.

**Table 3.** Source of influence used by each stakeholder in this study

| Name of stakeholders                                   | Source of influence |          |              |
|--|---------------------|----------|--------------|
|  | Personality         | Property | Organisation |
| Hitam River Ecotourism Destination Management          |                     |          | √            |
| Landowners   |                     | √        |              |
| A local community leader                               | √                   | √        |              |
| Samboja Subdistrict Government                         |                     |          | √            |
| Sub-village leaders                                    | √                   | √        |              |
| Tourism Agency of East Kalimantan                      |                     |          | √            |
| Tourism Agency of Kutai Kartanegara                    |                     |          | √            |
| Kampung Lama Village Government                        |                     |          | √            |
| Kuala Samboja Village Government                       |                     |          | √            |
| Planning Agency of Kutai Kartanegara                   |                     |          |              |
| Village Empowerment Agency of East Kalimantan          |                     |          |              |
| A provincial representative council of East Kalimantan |                     |          |              |
| Ministry of Enviroment and Forestry research station   |                     |          |              |
| PT Pertamina (a state-owned oil company)               |                     |          |              |
| PT PLKK (a local private company)                      |                     |          |              |
| Local youth organization: "Bina Mitra"                 |                     |          |              |
| Local youth organization: "Distrik 13"                 |                     |          | √            |
| Local youth organization: "KNPI"                       |                     |          | √            |
| BOSF (a non-government Organization)                   |                     |          |              |
| Marioga Tour and Travel Agent                          |                     |          |              |

There is a total of eight subvillages in the Kampung Lama village but Hitam River proboscis habitat areas located in the three subvillages administrative areas. Based on the local regulation, all the three subvillage leaders are selected by local people in a semi formal consensus. Subvillage leaders are usually held by respectful individuals or prominent figures in society and they are basicly voluntarily. On the other hand, a village leader (*kelurahan*) is appointed by district governments, and he/she is a civil servant, which received monthly salary from government. By considering these differences, subvillage leaders use personality for their source of influence, while village leaders use organisation.

Government institutions, such as Samboja Subdistrict and Tourism Agencies could potentially use their organisation to influence HRED by allocating budget for several programs: constructing tourism facilities or providing training for human resources improvement. Meanwhile, although they are unable to provide direct financial assistance due to limited

budget, Kampung Lama and Kuala Samboja villages could also use their organisation to provide potential human resources to develop Hitam River ecotourism. In addition, these institutions have legitimacy in managing its administrative areas including developing its tourism potential. On the other hand, the other government institutions are unable to influence Hitam River due to differences of institutions' main purposes. Conducting research is the only purpose of the MoEF research station. Meanwhile, village empowerment agency could only work on villages with 'desa' status. The planning agency of Kutai Kartanegara could not directly make an impact to HRED because this institution needs more administrative procedures for their plans or policies to be implemented.

A member of provincial representative council of East Kalimantan is unable to directly influence HRED unless he could make an effort to persuade local government to pay more attention to HRED or tourism sectors in East Kalimantan. Private companies, such as PT Pertamina and PT PLKK are also unauthorize to directly influence HRED although they have a community development division. Moreover, private companies need to seek permission from local government before they implement community development programs. Local youth organisation in Samboja Subdistrict, Distrik 13 and KNPI have members with potential human resources which could be involved to HRED management.

**Stakeholder interest over Hitam River**

Almost all of the identified stakeholders in this study show their interest in the information function of Hitam River ecosystem (Table 4). From the interview, almost all of the stakeholders stated that Hitam River is suitable for the tourist destination in Samboja subdistrict. Recreation and ecotourism are included in the 'information function'.

**Table 4.** List of interest of each stakeholder in this study

| Name of stakeholders                                   | Ecosystem functions |         |            |             |         |
|--|---------------------|---------|------------|-------------|---------|
|  | Regulation          | Habitat | Production | Information | Carrier |
| Hitam River Ecotourism Destination Management          |                     | √       | √          | √           |         |
| Landowners   |                     |         | √          | √           | √       |
| Local community leaders                                |                     | √       |            | √           | √       |
| Government of Samboja District                         | √                   | √       |            | √           |         |
| Sub-village Leaders                                    |                     |         | √          | √           | √       |
| Tourism Agency of East Kalimantan                      |                     |         |            | √           |         |
| Tourism Agency of Kutai Kartanegara                    |                     |         |            | √           |         |
| Kampung Lama village                                   |                     |         | √          | √           |         |
| Kuala Samboja village                                  |                     |         | √          | √           |         |
| Planning Agency of Kutai Kartanegara Regency           |                     | √       |            | √           |         |
| Village Empowerment Agency of East Kalimantan Province |                     |         |            |             |         |
| Provincial representative council of East Kalimantan   |                     | √       |            | √           |         |
| Ministry of Enviroment and Forestry research station   | √                   | √       |            | √           |         |
| PT Pertamina (a state-owned oil company)               |                     | √       |            | √           |         |
| PT PLKK (a local private company)                      |                     |         |            | √           |         |
| Local youth organization: "Bina Mitra"                 |                     |         |            | √           |         |
| Local youth organization: "Distrik 13"                 |                     | √       |            | √           |         |
| Local youth organization: "KNPI"                       |                     | √       |            | √           |         |
| BOSF (a non-government Organization)                   |                     |         |            | √           |         |
| Marioga Tour and Travel Agent                          |                     |         |            | √           |         |

There are only two stakeholders showing their interest in Hitam River's regulation functions: the Government of Samboja and MoEF research station. The government of Samboja stated that Hitam riverbanks are important for water regulation and flood prevention in

Kampung Lama and Kuala Samboja villages. The degradation of Hitam riverbanks could exacerbate floods that can inundate primary road connecting Balikpapan City, Samboja subdistrict and other subdistricts. The floods occur when high intensity rainfall occurs.

There are three ecosystem functions which were the main interests of the management of HRED. The Hitam River is a suitable habitat for the proboscis monkeys as well as for tourist destinations. However, production functions are also an interest to some members of the HRED management, which are also local people. Moreover, production functions are also the main interest for stakeholders who live in Samboja subdistrict: landowners, subvillage leaders, Kampung Lama and Kuala Samboja villages. Some local people still gather fish or shrimps from the river for fulfilling daily needs instead of commercial purposes. In fact, the Hitam River was rich in tiger shrimps in early 2000s, which became source of income for local people by trading the shrimp. In the early 2010s, shrimp population in the Hitam River decreased significantly due to coal mining activities and palm oil plantation in upstream areas. At the same time, tourism in this area was initiated.

There were three stakeholders that indicated their interest in carrier functions of Hitam River areas: landowners, local community leaders, and subvillage leaders. These stakeholders possess some portion of land in Hitam River areas, which could be used for living space or settlement in the future by their families. For landowners, this land could also be used as savings or investment, which could be sold in the future. As a result, habitat conversion could potentially occur, reducing habitat area for the proboscis monkeys. Among these three stakeholders, the local community leader shows his interest in habitat functions to Hitam River areas, acknowledging that his land is important home of the endangered animals.

**Stakeholders interest-influence matrix**

The results show that there are six stakeholders which are categorized as key players in this study (Fig. 3), showing their considerable interests as well as their potential influences over Hitam River areas.

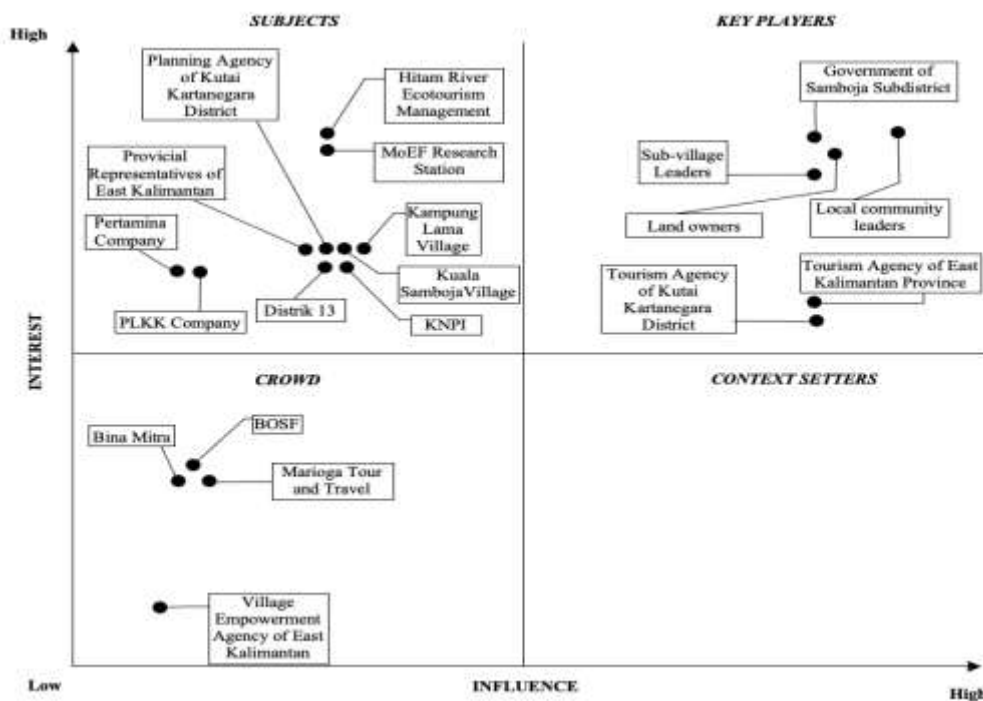


Fig. 3. Interest-influence matrix of stakeholders for Hitam River ecosystem

It is revealed that a key player stakeholder is characterized with at least one source of influence and two ecosystem function interests. However, there are some exceptions for several key stakeholders in terms of influence. For instance, Kuala Samboja and Kampung Lama villages might be able to use organisation as a source of power, but they lack budget compared to Province and District Tourism Agency. Indeed, one of the main duties of government tourism agency is to develop tourist destinations in its areas. Limited budget is also the case for HRED management, *Distrik 13* and *KNPI*. Therefore, Provincial and District Tourism Agencies have higher influence than Kuala Samboja and Kampung Lama villages.

It is also revealed that the majority of stakeholders in this study, 10 stakeholders, were categorized as subjects (Fig. 3). For HRED Management, key players are stakeholders who should be the main consideration for collaboration for developing the ecotourism. At the beginning, the management could establish relationship and communication hierarchically starting from the landowners, Kampung Lama Village Government and subvillage Leaders until agreements are reached. Agreements might include profit sharing, organizational ground rules or division of tasks. Then, it can be followed by establishing communication with The Government of Samboja Subdistrict, which can be linked with community development programs from private companies. The programs can also be linked with proboscis monkeys' conservation programs in Hitam River. Subsequently, communication with both Provincial and District Tourism Agencies need to be established to find opportunities for potential funding for tourism facilities or human resource development.

It is important to determine the development stage of HRED to formulate future strategies by considering stakeholder analysis from this study. However, studies about development stage of an ecotourism destination are limited, therefore, community-based tourism (CBT) studies were used in this study. Moreover, due to the problematic definition between "ecotourism" and "community-based tourism", it is introduced the term "community-based ecotourism (CBET)", which covers all aspects in both terms [43]. Having ecotourism characteristics, HRED also has CBT characteristics: initiated by internal people [44]; situated in the community on its communal land; owned and managed by community members [45]. Therefore, it is relevant to use CBT literature in determining the development stage of HRED in this study.

Called tourism area life cycle, there are several categories of tourism development based on the number of visitors: exploration, involvement, early development, mid-development and late development [46]. Exploration stage is characterized with very low number of visitors, which results in limited tourism benefits. On the other hand, the late development is indicated by a significant increase in tourist arrivals. Based on tourism area life cycle, HRED can be categorized at the exploration stage because the tourist arrival is low. Drawing from the results in this study, the management of HRED might need to collaborate with other stakeholders for development of the tourist destination and proboscis monkey conservation.

There are several determinants for a successful CBT in developing countries: suitable location, support from external and strong leadership [47]. Based on the results, HRED has some potential to become a successful community-based tourism. Related to location, HRED is only about 50km from an international airport located in Balikpapan city. Moreover, there is a plan to relocate Indonesian capital city in Penajam district, which is about 60km from HRED. Thus, the management of HRED might use these opportunities to market HRED in order to increase visitors. Meanwhile, external support can be obtained from private companies and government institutions that show high interest to HRED. However, there might be weak leadership among HRED management, which can be indicated by the absence of local individual champion. Individual champion is necessary for several purposes: linking between community and other stakeholders, giving motivation and providing information to other members [48, 49].

The other determinant is based on a study in Nicaragua, in which there are two models of community-based tourism: top-down, which is initiated by external stakeholders and bottom-up, which is initiated by local people [50]. The study also reveals that bottom-up community-

based tourism shows longer life span, more rapid growth and greater positive impacts to local community. Meanwhile, based on observation, HRED can be categorized as bottom-up community-based tourism because it was initiated by the local community after they saw tourism potential in Hitam River area. Therefore, HRED has considerable potential to be a successful ecotourism destination. Nevertheless, considerable efforts need to be made to develop HRED. Although it has been established since 2010, HRED is unable to contribute to proboscis monkey conservation as well as local income improvement.

It is important to improve skills among the members of HRED Management by training and education. Capacity building for local people is one of essential components in successful community-based tourism [51]. At the beginning, the tourist guides in HRED need to have abilities to speak English so that they will be able to interact with foreign visitors. A study about community-based tourism in Bali reveals that language barriers have negative impact on the tourism development because visitors prefer to attend to locations with local guides who can communicate in foreign languages [52]. Furthermore, the members of HRED Management need to have profound understanding and knowledge about mangrove ecosystem, proboscis monkeys and other unique features in Hitam River area. Based on one of the successful ecotourism in Indonesia, it is important for local community to recognize, diversify and promote its local product to potential customers [53]. Based on the study, HRED management could establish collaboration with other stakeholders, such as: Tourism Agency of Kutai Kartanegara District and East Kalimantan Province, to improve their communication skills and knowledge.

Potential conflicts might arise between HRED Management and local youth organisations: KNPI and Distrik 13 due to job competitions. Hitam River ecotourist destination provides potential job opportunities. On the other hand, members of that youth organization are mainly unemployments or having temporary jobs. Local conflicts related to unequal share job opportunities from tourism development is also reported in several places in Indonesia, such as: Komodo National Park, East Nusa Tenggara Province [54], Lake Toba, North Sumatera Province [55], Gunung Ciremai National Park, West Java [56] and Nglanggeran, Yogyakarta Province [57].

Initiated by MoEF Research Station, a series of trainings had been conducted in collaboration with several stakeholders: PT Pertamina, Government of Samboja, Kampung Lama Village and an international non-government organization (NGO), namely ELTI (Environmental Leadership Training Initiatives). ELTI has been working with the MoEF Research Station since early 2010. In other places, the involvement of NGO can increase the success chance of ecotourism or community-based tourism [58]. In this training, PT Pertamina and ELTI provided funds for the trainers, while the local government provided venue and organized the event. The first training was conducted in 27-28 November 2018 and aimed to improve the understanding of proboscis monkey conservation including its habitat [59]. This training was attended by members of HRED, local public figures, and private companies. The second training was about non-timber forest product, which was conducted in 26-28 July 2019 [60], followed by third training in 22-24 November 2019 about rehabilitation and restoration of mangroves [61].

Following the series of trainings, several stakeholders donated to HRED development. One of the local public figures committed to allocating about 4ha of his land for the habitat conservation and rehabilitation. Contribution from local community in form of land or effort is essential in the establishment of community-based tourism [62]. Meanwhile, PT Pertamina had allocated a budget to establish an environmental education building in the entrance area of HRED. The other companies operating in Samboja subdistrict also participated in HRED development using CSR schemes. Moreover, the training also revealed other potential stakeholders which could be involved to HRED development and proboscis monkey conservation. In the end of 2018, the HRED management has transformed to a *Pokdarwis* (Tourism Aware Group) based on a decree issued by Tourism Agency of Kutai Kartanegara Number: 556/PDP.III/XI/2018. The decree allows them to receive benefits from District and Provincial Tourism Agency.

## Conclusions

In conclusion, there are potential stakeholders for collaboration to develop ecotourism in Hitam River, to conserve proboscis monkeys and to provide alternative income for local people. The HRED has been supported by 'key' stakeholders, while 'subject' stakeholders can provide potential assistances for human resources development as well as financial assistance. Gaining support from landowners is essential because several landowners also hold important positions in the village. Meanwhile, local government institutions, subvillage leaders and local community leaders acknowledge the importance of the Hitam River as a crucial habitat for proboscis monkeys.

However, capacity building is necessary for improving knowledge and skills among the members of HRED management and local people, such as: hospitality, language and management. Meanwhile, human resource development is also important to create HRED development plans and to implement their plans for ensuring sustainability of Hitam River ecosystem. Potential stakeholders for collaboration capacity building improvement are both district and provincial government tourism agencies or private companies which operate in the Samboja Subdistrict administrative areas. These stakeholders can also be a source of funding for building tourist facilities.

Although it has operated since 2010, HRED is still categorized at the exploration stage based on tourism area life cycle due to low number of visits. However, HRED might have bright prospects in the future because of several factors: suitable location, support from external sources and strong leadership. In addition, HRED is a bottom-up community-based tourism because it was established by local people. Several training courses have also been conducted to improve knowledge and skills for the members of HRED management and local people. Nevertheless, considerable efforts need to be made to develop HRED sustainably: providing income for local people and conserving proboscis monkeys.

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