Challenges in initiating Tarsius fuscus’ creative ecotourism at Bantimurung Bulusaraung National Park

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Abstract. Tarsius fuscus (tarsier) has a high potential to be developed as a tourism attraction at Bantimurung Bulusaraung National Park (Babul NP). This study aims to identify challenges in developing sustainable tourism of Tarsius fuscus. Surveys, interviews, and documentation methods were employed in collecting data. Data were analyzed quantitatively and by using descriptive analysis, potential tourism analysis, internal factor and external factor evaluation analysis, and the strengths, weaknesses, opportunities, and threats (SWOT) analysis. Babul NP has potential resources that can be used to enhance tourism, such as Tarsius fuscus that serves as the main attraction, its habitat’s beautiful panorama, and local communities who can play a role in tourism. Nevertheless, the initiation and development of tarsier tourism face difficulties because infrastructure is limited, it is not a primary program of the management, tarsiers are not popular among tourists, and promotion is limited. It requires management effort and great advertising. It also needs to use all of the potency, especially using abandoned potency such as culture and tradition of the local community. It opens the opportunity of tourists to involve actively (co-creation) in tourism. This strategy to initiate and develop this tourism will form a new model and innovation of tourism, namely Tarsius fuscus creative eco-tourism.

1. Introduction
Primates have the potential to attract tourists. Several primates, classified as great apes such as chimpanzees [1, 2] and gorillas [3, 4] in Afrika, and also orangutans [5, 6] in Indonesia, have become top tourist attractions. Other primates, classified as lesser apes such as yellow-crested gibbons [7], and primates classified as old-world monkeys like wild Barbary macaques in Morocco [8], Tibetan macaques in China [9, 10], snow monkeys in Japan [11], and also primates classified as Strepsirrhini such as lemurs in Madagascar [10, 12], and loris [13] also attract tourists.

Tourists are not only attracted to large primates but also small primates. Several species of small primates from the Tarsiidae family are famous tourist attractions. These primates include Carlito syrichta (known as Tarsius syrichta) in Bohol, Philippines [14, 15], Tarsius spectrumgurskyae (known as Tarsius spectrum) in Tangkoko Batu Angus, North Sulawesi [16], and Cephalopachus bancanus (known as Tarsius bancanus) in Bangka Belitung Island [17].

Sulawesi Island has diverse species of primates, especially from the Tarsiidae family. The southwestern arm of Sulawesi island is the habitat of small primate endemic, namely Makassar tarsier (Tarsius fuscus) [18]. The existence of this species in Bantimurung Bulusaraung National Park (Babul NP) was confirmed several years ago (personal interview, 2008). The usage of this species as tourism
objects remains limited. Babul NP only promoted this species as an attraction in the park. However, like the other Tarsiidae, *T. fuscus* has great potential for tourism as *wildlife Tarsius tourism* or *Tarsius watching tourism*. This research aims to identify challenges in creating tarsier tourism and also to formulate initiatives to develop creative *T. fuscus* eco-tourism.

Research on *Tarsius fuscus* is still limited. Research topics concerning *T. fuscus* that have been conducted generally concern the population, habitat, food, distribution, behavior. To the best author's knowledge, there is only one study concerning population and behavior, which recommends the presence of *T. fuscus* for night tourism [19]. Therefore, this study was conducted to determine the potential of Babul National Park to develop tarsier tourism, the challenges faced, and the strategies that need to be carried out to initiate the construction of *T. fuscus* tourism.

2. **Methodology**

2.1. **Study site**

The research was conducted from July 2016 to October 2016. Data collection was conducted in several locations at Babul NP, which has potential as a tourism destination and tarsier habitat. These areas include (1) Pattunuang Assue Nature Tourism Object (NTO), (2) wilderness and utilization zones in Karaenta, Pampang, and (3) Pute. The study site covered the following locations in South Sulawesi Province: Pattunuang Assue, Pute, and Pampang lay in Samangki Village, Simbang subdistrict, Karaenta lays in Labuaja Village, Cenrana subdistrict, and Maros District.

2.2. **Materials**

Camera, notes, questionnaires, and GPS were used as materials and tools.

2.3. **Procedure**

Data and information related to initiation *Tarsius fuscus* tourism were collected from observation, documentation, and interviews.

(1.) We collected data regarding the feasibility of the *T. fuscus* population and their habitat as tourism objects.

a. First, data collection related to forest area condition, which is used as habitat by *T. fuscus*. According to [20, 21], information related to the habitat of *T. fuscus* was collected by interviewing a key informant who is familiar with the forest in the Babul NP area.

b. Second, a quick assessment of the forest area, which is used as habitat by *T. fuscus*.

c. Third, several locations that have high potential and appropriate as *T. fuscus* tourism destinations were chosen based on a quick survey.

d. Fourth, a field observation on three selected locations, namely Pampang and Pute, Karaenta, and Pattunuang Assue NTO, was conducted to gather information related to *T. fuscus* tourism. Considering Pattunuang Assue NTO is a tourism destination, observations related to supporting variables for developing tourism were added to support *T. fuscus* tourism.

(2.) Data about community perception and support were obtained by interviewing residents around the forest.

(3.) Further discussion with officer management of Babul NP to reveal human resource readiness, including plans to develop *T. fuscus* tourism.

2.4. **Data analysis**

Data related to observations on *T. fuscus* in Pampang, Pute, Karaenta, and Pattunuang Assue NTO were analyzed by using several methods.

2.4.1. **Descriptive analysis.** This method describes research objects by describing, classifying, and analyzing descriptively [22]. Therefore, this analysis describes the *Tarsius* groups, their condition, and their habitat, including other surrounding forests.
2.4.2. *Tarsius fuscus* tourism potential analysis. Indicator and sub-indicator referred to potential tourism by a modified of [23] and a modified of ADO-ODTWA (Operational Area Analysis – Nature-based Tourism Objects and Attraction) guidelines [24]. In contrast, the preparation of indicators included indicators, sub-indicators, variables, criteria, and weight scores of *T. fuscus'* internal and external tourism resources is carried out through discussions toward local experts and officers [25]. The analysis includes a level of potential of *T. fuscus* as a tourist attraction, level of potential of the area as a location to develop *T. fuscus* tourism, and determining which site has the best potential as *T. fuscus* tourism destination.

The potency of *T. fuscus* as a tourist attraction was analyzed by grouping and scoring the internal of *T. fuscus*’ aspect and their habitat aspect. Variable and scoring of *T. fuscus* potential as a tourist attraction and determining the location as a tourist destination can be seen in Appendix A.

Grouping of *T. fuscus* as an attraction was conducted by calculating a maximum scoring minus minimum scoring and divided by maximum value of the variable. The result showed that value ranges for low, middle, and high potential are <13, 13–22, and >22, respectively.

The level of potential location base on the scoring of the external aspect of each location shows in Appendix B, which referred to a modified ADO-ODTWA [24]. The grouping procedure of location potential as a tourism destination is the same as that grouping of *T. fuscus* as an attraction. The result showed that the value ranges of the potential location as a tourism destination for low, middle, and high potentials are <17, 17–26, and >26, respectively.

The appropriate locations as a tourism destination were analyzed by combining the result analysis of *T. fuscus* in particular habitat as an attraction and the result analysis of potential location for *T. fuscus* tourism. The value range for grouping of the suitable locations as a tourist destination is <29 for low potential; 29–49 for middle potential; and >49 for high potential.

2.4.3. Analysis of internal and external factor evaluation. This analysis refers to [26, 27] aims to create a matrix that contains internal factors, namely the strengths and weaknesses of the forest area that has potency as a location for *Tarsius fuscus* tourism. This matrix also contains the evaluation of external factors that have an influence on the initiation of *T. fuscus* tourism. The external factors are opportunities and threats for each location. Total judgment value for internal and external factors have 1.0 point, which was measured based on observation, documentation, and interviews on each internal and external factor. Both factors were assessed using weight value. Weighting value for strength and opportunity used four values (4 = best/high strength; 3 = good/strength; value 2 = weak, and 1 = very weak). The assessment is the same as for a positive factor to assess weaknesses and threats factors, but the value is negated. Therefore, an area within the highest negative value is an area that has the lowest weakness and threats.

2.4.4. SWOT Analysis. The strategy to develop *Tarsius fuscus* tourism was analyzed by using the strengths, weaknesses, opportunities, and threats (SWOT) method [26, 27] to investigate four strategy initiations of *T. fuscus* tourism. [28] stated four strategies, namely (1) strength–opportunity (SO), which uses internal strength to catch outside opportunity; (2) weakness–opportunity, which aims to minimize internal weakness by utilizing external opportunity; (3) strength–threat, which aims to reduce or avoid impact from the external threat by using internal strength; (4) and weakness–threat, which aims to reduce internal weakness and avoid external threat.
3. Results and Discussion

3.1. Results

3.1.1. The potential of T. fuscus and habitat. The result showed that all locations were suitable as a good habitat for T. fuscus. Result of duet song or vocalization in the morning showed that a lot of T. fuscus groups occupied locations. Observation on T. fuscus only can be conducted in a short time in the afternoon. The small size and wild behavior of T. fuscus caused it hard to observe. However, there are groups of T. fuscus, which are benign that can be observed at close range and in a long duration. An excellent opportunity to observe T. fuscus in natural habitat becomes a benefit and support of the initiation of T. fuscus tourism. Another supporting factor is a beautiful panorama of habitat, Karaenta, and Pattunuang Assue are a karst area with a charming tower karst landscape. Pattunuang Assue is a tourist location that is managed well by the Babul NP.

The existence of surrounding communities that have local customs and culture (such as a variety of languages, traditional foods, dances, songs, traditional clothing), is interesting to develop as a tourist attraction. Packaging attractively those things will support and enrich the types of tourist activities. It will increase the interest of tourists to be actively involved in a variety of tourist activities. These various advantages cause research locations to have a high score. High category value (> 22), shows that all research sites are considered feasible to develop as T. fuscus tourism. T. fuscus tourism plans have been included in the Babul National Park agenda, but unfortunately, this is not yet optimal to be one of the main tourist attractions. There are no adequate T. fuscus tourism facilities, facilities that allow tourists to observe T. fuscus are two research cages used by the Environment and Forestry Research and Development Makassar to study T. fuscus.

Therefore, the unavailability of supporting facilities of T. fuscus tourism, made only Pattunuang Assue have a high category (value > 26) to become a destination for developing T. fuscus tourism. Two locations have a middle category. The holistic assessment, including internal and external factors, resulted in two appropriate locations (value > 49) for developing T. fuscus tourism, which is Karaenta and Pattunuang Assue, as seen in Table 1.

| Level of potency | Pute and Pampang | Karaenta | Pattunuang Assue |
|------------------|------------------|----------|------------------|
| Internal T. fuscus as object attraction | 26 | 29 | 30 |
| Category | High | High | High |
| External factors/location of T. fuscus as the attraction | 21 | 24 | 36 |
| Category | Medium | Medium | High |
| Assessment value for the best appropriate location | 47 | 53 | 66 |
| Category | Medium | High | High |

3.1.2. Internal and external factors influencing the initiation of T. fuscus tourism development. An assessment of internal factors showed that the strength value of Pattunuang Assue was the highest compared to other locations. Therefore, Pattunuang Assue is the best location for developing Tarsius tourism (Table 2).
Table 2. Assessment of internal factors (strength).

| Strength (S) | Score | Pampang and Pute | Karaenta | Pattunuang Assue |
|--------------|-------|------------------|----------|------------------|
|              |       | Weight | Value | Weight | Value | Weight | Value |
| 1.           | 0.4   | 3      | 1.2   | 4      | 1.6   | 2      | 0.8   |
| 2.           | 0.2   | 1      | 0.2   | 1      | 0.2   | 3      | 0.6   |
| 3.           | 0.1   | 1      | 0.1   | 1      | 0.1   | 4      | 0.4   |
| 4.           | 0.3   | 2      | 0.6   | 3      | 0.9   | 4      | 1.2   |

Table 3 shows an assessment of the internal weakness of each potential location for the initiation of *T. fuscus* tourism. It showed that Pattunuang Assue was a location which has the lowest value of weakness. Thus it became the best location compared to other sites.

Table 3. Assessment of internal weakness.

| Weakness (W) | Score | Pampang and Pute | Karaenta | Pattunuang Assue |
|--------------|-------|------------------|----------|------------------|
|              |       | Weight | Value | Weight | Weight | Value | Weight |
| 1. Tourism Facilities is limited | 0.3   | -2     | -0.6  | -2     | -0.6   | -3     | -0.9   |
| 2. Education level of community is low | 0.1   | -1     | -0.1  | -1     | -0.1   | -1     | -0.1   |
| 3. There is no promotion and no involvement of stakeholder to promote tourism | 0.3   | -2     | -0.6  | -2     | -0.6   | -2     | -0.6   |
| 4. Human resources quality of *T. fuscus* tourism management is low | 0.1   | -1     | -0.1  | -1     | -0.1   | -1     | -0.1   |
| 5. Level of difficulties and travelling time to destination candidate of *T. fuscus* tourism | 0.2   | -1     | -0.2  | -3     | -0.6   | -2     | -0.4   |
| Total       | 1     | -1.6   | -2    | -2     | -2.1   |

The result of the assessment of external opportunity factors in each location that influences the initiation of *T. fuscus* tourism shows in Table 4. This table shows that Pattunuang Assue has the highest external opportunity in initiating tourism.
Table 4. Assessment of the external opportunity that supports the initiation of *T. fuscus* tourism.

| Opportunity (O)                                                                 | Score | Pampang and Pute | Karaenta | Pattunuang Assue |
|--------------------------------------------------------------------------------|-------|------------------|----------|------------------|
| Supporting of government                                                       | 0.25  | 2                | 0.5      | 2                | 0.5 | 3 | 0.75 |
| Human resources of community which have opportunity to involve                 | 0.2   | 2                | 0.4      | 1                | 0.2 | 3 | 0.6  |
| Richness biodiversity of *T. fuscus*' food, the richness of culture, a wealth  | 0.35  | 3                | 1.05     | 3                | 1.05 | 3 | 1.05  |
| of culinary, openness of society which enriches tourist attractions to        |       |                  |          |                  |      |   |       |
| support the implementation of creative eco-tourism                            |       |                  |          |                  |      |   |       |
| Increasing of communication and internet technology usage                      | 0.2   | 2                | 0.4      | 3                | 0.6 | 4 | 0.8  |
| Total                                                                          | 1     | 2.35             | 2.35     | 3.2              |      |   |       |

Other external factors, such as threats in each location, were assessed. Table 5 describes the value of the threat in each location that shows Pattunuang Assue is the location within the lowest threats.

Table 5. Threat value toward initiation in each location.

| Threats (T)                                                                 | Score | Pampang and Pute | Karaenta | Pattunuang Assue |
|-----------------------------------------------------------------------------|-------|------------------|----------|------------------|
| Tourist activities that affect *T. fuscus* (smoke of bonfire, noisy, lighting)| 0.3   | -3               | -0.9     | -3               | -0.9 | -1 | -0.3 |
| Litter                                                                      | 0.2   | -2               | -0.4     | -1               | -0.2 | -1 | -0.2 |
| Catching *T. fuscus*                                                         | 0.5   | -2               | -1       | -1               | -0.5 | -2 | -1   |
| Total                                                                        | 1     | -2.3             | -1.6     | -1.5             |      |   |       |

3.1.3. Assessment of internal and external factors influencing the initiation of *T. fuscus* tourism. The assessment on External Factor Evaluation (EFE) and Internal Factors Evaluation (IFE) that influence initiation for developing *T. fuscus* tourism showed that all locations have a positive value or at Quadrant I (Table 6).

Table 6. Matrix of EFE and IFE value.

| Value of factors | Pampang and Pute | Karaenta | Pattunuang Assue |
|------------------|------------------|----------|------------------|
| Strength         | 2.1              | 2.8      | 3                |
| Weakness         | -1.6             | -2       | -2.1             |
| Total            | **0.5**          | **0.8**  | **0.9**          |
| Opportunity      | 2.35             | 2.35     | 3.2              |
| Threat           | -2.3             | -1.6     | -1.5             |
| Total            | **0.05**         | **0.75** | **1.7**          |
The value at Quadrant I gives excellent benefits because the initiation for developing *T. fuscus* tourism has high strength and a good opportunity. Figure 1 shows that this condition should be utilized.

![Figure 1](image)

**Figure 1.** Result of analysis of the combination of external and internal factors in initiating the development of *T. fuscus* tourism.

3.1.4. *Initiation strategy for developing T. fuscus tourism based on the SWOT method.* Several combination strategies support the development of *T. fuscus* tourism based on internal factors, such as strengths and weaknesses, and external factors such as opportunities and threats. Table 7 shows the alternative strategies.
Table 7. Matrix of alternative strategy in initiating the development of *T. fuscus* tourism.

| Internal Factor Analysis Strategic (IFAS) | Strength (S) | Weakness (W) |
|------------------------------------------|--------------|--------------|
| Tourist can easily watch groups of *T. fuscus* in natural habitat | *T. fuscus* were less known as tourism object by tourists |
| Facilities such as captivity to watching *T. fuscus* are available | Main tourism facilities and supporting facilities are not available |
| The community has a low level of education | There is no advertising and involvement of stakeholder to promote tourism |
| **External Factor Analysis Strategy (EFAS)** | **The natural habitat of *T. fuscus* is appropriate as a tourism destination** | Quality of human resource of *T. fuscus* tourism management is low |
| **Opportunity (O)** | **SO Strategy (Comparative advantage)** | **WO Strategy (Investment divestment)** |
| Government supporting to develop tourism | Initiate development of *T. fuscus* tourism | Provide funding for developing tourism attraction and facilities |
| Human resources of community which have the opportunity to involve | Initiate the involvement of the community in tourism | Training and education to improve the professionalism of human resource of management officer and community |
| Richness biodiversity of *T. fuscus*’ food, the richness of culture, a wealth of culinary, openness of society which enriches tourist attractions to support the implementation of creative eco-tourism | Initiate utilization of biodiversity, local culture, local culinary as a part of tourism |
| Increasing communication and internet technology usage | Initiate tourism advertising (social media, electronic, and brochure, etc.) |
| **Threat (T)** | **ST Strategy (Mobilization)** | **WT Strategy (Damage control)** |
| Community utilize bamboo duri species that affect *Tarsius fuscus* population | Increasing awareness of stakeholder related *Tarsius fuscus* tourism potency in their area | Illumination and increasing of stakeholder awareness to protect and preserve habitat sustainability and biodiversity, and promote sustainable utilization of biodiversity |
| Less of awareness and care of tourist can make them catch *T. fuscus* | Initiate collaboration between stakeholder | Preventive action to avoid disturbance on *T. fuscus* (board announcement, monitoring, and guide compulsory for tourist) |
| Competition to other destination | Involving stakeholder in the tourism program to increase awareness to protect and preserve biodiversity | |
| Create innovative and creative tourism product | | |
The best strategy for developing *T. fuscus* tourism in Pattunuang Assue and Karaenta was an aggressive or growth-oriented strategy, following the initiation position to develop *T. fuscus* tourism in Quadrant I. [26] and [29] explained that SO strategies utilize the fact that power can help in taking advantage of external opportunities. Therefore, developing *T. fuscus* tourism should be started quickly, not only by using *T. fuscus* and their beautiful habitat but also by using the biodiversity of *T. fuscus'* food. Developing tourism can also utilize local culture, culinary, and openness of the community. Utilizing these supporting factors enriches tourism attraction.

3.2. Discussions

3.2.1. Decision on the type of *T. fuscus* tourism based on the SWOT method. It is essential to determine the type and role model to initiate *T. fuscus* tourism. Several tourism models in Indonesia can be adopted in creating *T. fuscus* tourism. The first model of tourism, which is derived from a statement in Regulation Number 10 2009 [30] called tourism. It is defined as a traveling activity carried out by a person or group by visiting a particular place for recreational purposes, personal development, or learning the uniqueness of the tourist attraction in a temporary period [31]. This regulation emphasizes the uniqueness of tourism; thus, adopting this term in *T. fuscus* tourism only considers the internal factor of *T. fuscus*, such as the uniqueness.

The second model is nature tourism, which is stated in Government Regulation Number 36 2010 [32]. Nature tourism is defined as a traveling activity or part of these activities, which is voluntary and temporary to enjoy the symptoms of uniqueness and natural beauty in the area of wildlife reserves, national parks, grand forest parks, and nature tourism parks [32]. This regulation considers the uniqueness and beauty of the area. Therefore, *T. fuscus* tourism applies this term by considering the uniqueness and beautiful landscape of *Tarsius’* habitat.

The third model of tourism, which is derived from a statement in Government Regulation Number 28 2011 concerning Management of Nature Reserves and Nature Conservation Areas, accommodates tourism in a conservation area such as National Park [33]. This regulation opens the opportunity to create tourism in a conservation area such as *T. fuscus* tourism at National Park.

Nevertheless, the Minister of Home Affairs Regulation No. 33/2009 mandates to adopt eco-tourism in the conservation area [34]. This regulation stated that eco-tourism is a nature tourism activity which has a responsibility to educate, and support effort to conserve natural resources, and increase the income of local communities [34]. The regulation clearly explained that eco-tourism is not just a trip to enjoy the beauty and uniqueness of nature or just traveling, or an adventurous tour or nature tour. It arises because tourism activities, including enjoying nature, may have positive consequences on various aspects, such as aspects of responsibility for the preservation of natural resources and the environment, education, understanding, as well as support for the surrounding community. In this term, eco-tourism has a deeper meaning and application rather than tourism and nature tourism. Therefore, eco-tourism is the best model for the conservation area. Adopting eco-tourism in *T. fuscus* tourism become an alternative model. This fourth model considers the uniqueness of *T. fuscus*, beauty and richness of habitat, a responsibility to maintain sustainability, and benefits to the society around the forest.

Based on SWOT analysis (Table 7), showed that involving society around the forest, creating *T. fuscus* tourism is the best option. They are the closest stakeholder who is essential in maintaining the sustainability of *T. fuscus*. They also have interesting cultures such as Bugis-Makassar traditional house, dance, clothes, various languages, wisdom, norms, and culinary traditions, which enrich tourism attraction. According to [35] and [36], the involvement of those aspects as tourist attractions are forms of cultural tourism. *T. fuscus* tourism model that combines eco-tourism dan cultural tourism is new and becomes a fifth alternative model. It emphasizes the eco-tourism goal that empowers local communities and promotes their distinctive features, and to encourage their awareness to preserve forest around them, especially *T. fuscus* and its habitat.

Other stakeholders directly involved with *T. fuscus* tourism are tourists. Tourists often do not want to be merely passive viewers when traveling. They usually want to be directly involved and take
an active role in tourist activities. For example, tourists take part in traditional cooking activities or in learning traditional dances and songs. They even engage in challenging activities that require skills and patience, such as sarong (traditional clothes) making. Tourism that opens opportunities for the involvement of tourists in tourism activities is called creative tourism [37-40].

Tourist participation in tourism activities is an exciting feature of creative tourism. Creative tourism is defined as tourism, which offers tourists the opportunity to develop their creative potential through active participation in courses and learning experiences, which are the characteristics of the destination where they are undertaken [41]. [42] defines creative tourism as directed towards an engaged and authentic experience, with participative learning in the arts, heritage, or unique character of a place, and it provides a connection with those who reside in this place and create this living culture. Thus, creative tourism allows all parties to participate actively and interact in creating tourism. In creative tourism, tourists are no longer passive and just enjoying tourist attractions. Besides, tourists no longer return home with only bring souvenirs. Creative tourism allows tourists to gain different experiences with higher levels of satisfaction and valuable experiences. According to [43], this is because tourists can be actively involved and interact directly in learning local skills, expertise, traditions, and various unique things located at the destination. Tourists can participate in creating tourism activities (co-creation) [44, 45].

Creative tourism has been applied to many tourism developments, for example, ex-situ conservation areas such as the botanical garden [46], natural areas [47, 48], and conservation areas such as national parks [37], which applied the principle of eco-tourism in tourism. Creative tourism can even be found in animal-based tourism [49, 50]. Implementation of creative eco-tourism in various tourism sectors, especially along with the implementation of eco-tourism due to the principle of creative tourism, is in line with eco-tourism. Eco-tourism requires the existence of understanding and responsibility aspects for the preservation of natural resources and the environment, as well as concern and support for the surrounding community. This is in line with the principles of creative tourism that opens opportunities for the creativity of the parties involved. It can connect to nature and the local community as a part of the attraction. In this case, [51] expected that stakeholders appreciate a variety of wildlife and natural areas as creative ecosystems, so they can actively produce various creative ideas and activities that care towards the preservation of natural resources and the community around.

[52] stated that the number of tourists who want to experience tourism activities actively is increasing. Based on SWOT analysis, T. fuscus tourism opens an opportunity for tourists to involve actively. Involving tourists in tourism (creative tourism) adds a unique and innovative form of tourism, namely creative eco-tourism, which includes eco-tourism, cultural tourism, and creative tourism. Creative eco-tourism becomes a sixth alternative model of T. fuscus tourism. This model involves the participation of all stakeholders. Therefore, it becomes the best model for T. fuscus tourism. The existence of T. fuscus creative eco-tourism will capture market opportunities. It will bring tourists who will not only learn about animal conservation and be concerned with the environment but who will also actively involved and determine tourism activities (co-creation). For example, learn traditional dance, food, and cultural values. Furthermore, tourists will learn the local wisdom of the community in preserving the environment. Table 8 shows the alternative of the creative eco-tourism activities of T. fuscus.

| No | Creative-Ecotourism Potency | Tourist activities | Opportunity to involve the community |
|----|-----------------------------|--------------------|-------------------------------------|
| 1  | Watching T. fuscus in their habitat | Observing and documenting | Guide, interpreter |
| 2  | Feeding T. fuscus in their habitat | Watching, documenting and feeding | Guide, interpreter, provider of insect of Tarsius' food |
| 3  | Night tourism/explore habitat T. fuscus at night | Enjoy and exploring habitat, documenting | Guide, interpreter, provider of equipment such as a headlamp, flashlight |
| Experience great adventure by exploring karst area and forest around habitat *T. fuscus* at day (river bank, karst cliff) | Enjoy the panorama, and exploring habitat, documenting | Guide, interpreter, provider of equipment |
|---|---|---|
| Watching *T. fuscus* in captivity | Watching and documenting *Tarsius fuscus* behavior | Guide, interpreter |
| Feeding *T. fuscus* in captivity | Watching, documenting and feeding | extension agents, tourist interpreters, providers of insect |
| Experience in catching insect as *T. fuscus* food | actively involved in activities to catch an insect, documenting | Guide, interpreter, provider of equipment |
| Learn to raise and to breed insect as *T. fuscus* food | actively involved in activities of maintenance and breeding insects, documenting | Interpreter, provider of equipment |
| Learn to make an insect specimen | actively involved in the activity of making insect specimen, documenting | Instructor, interpreter, provider of equipment |
| Learn the biology of insect | Watching and documenting | Instructor, interpreter, provider of equipment |
| Experience rural live around *T. fuscus* habitat | actively involved in rural tourism, observing, documenting | Guide, interpreter, homestay |
| Enjoy lives like a local community | actively involved in the daily activities of residents, observing, documenting | Homestay, or act as hosts who carry out daily activities as usual (e.g., cooking traditional culinary, etc.) involving tourists |
| Enjoy local culture show (dance and traditional song) | actively involved in performances, learning traditional dances and singing folk songs, observing, documenting | Dancer, singer, interpreter |
| Enjoy wearing traditional clothes and take a selfie | wearing traditional clothes and documenting | Provider of traditional clothes, interpreter |
| Enjoy local culinary | enjoy, learn to cook, documenting | Provider of equipment, restaurant, interpreter |

Many alternative attractions and opportunities involve tourists and the community in the *T. fuscus* creative eco-tourism; this form of tourism will have an excellent opportunity to advance tourism in Babul NP.

4. Conclusion and Recommendation

4.1. Conclusion

*Tarsius fuscus* has high potency as a tourism attraction. It supported by the existence of *T. fuscus*, which can be watched at close range within a beautiful panorama of habitat. Community around it also has a culture that enriches attraction diversity. However, initiation of developing eco-tourism that focuses on *T. fuscus* faces difficulties, such as infrastructure is limited, it is not a primary program of the management, tarsiers are not popular among tourists, and promotion is limited. Therefore, the development of tarsier tourism requires management effort and great advertising. It needs strategies, such as creating new and innovative tourism that promotes the involvement of the local community,
along with its cultural characteristics. It may also open opportunities for the active participation of tourists for co-creation (encourage engagement, interaction, and direct involvement in tourism activities, such as feeding, taking care of tarsiers, and experiencing local life). Strategy to develop *T. fuscus* tourism, which utilizes all potency, can be categorized as new tourism and innovative, namely *T. fuscus* creative eco-tourism.

4.2. Recommendation
Reforming various aspects to prepare the initiation of *Tarsius fuscus* creative eco-tourism development is necessary. Examples of such changes are providing tourism facilities, infrastructure, and developing human resources and community who will be involved in this creative eco-tourism.

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Appendix A. Variable and scoring of *T. fuscus'* potential as a tourist attraction and determining the location as a tourist destination (a modified of [23], and a modified of ADO-ODTWA guidelines [24])

| Indicators | Sub-indicator | Variable | Criteria | Weight score |
|------------|---------------|----------|----------|--------------|
| Attraction | A. Internal *T. fuscus* (wildlife as attraction object) | 1. Existence of *T. fuscus* groups in the nature habitat | Absent | 1 |
| | | | Existed | 2 |
| | | 2. Number of group population | > 5 groups | 1 |
| | | | > 10 groups | 2 |
| | | 3. Level of difficulties watching *T. fuscus* in their habitat | Difficult | 1 |
| | | | Easy | 2 |
| | | 4. Capability as the main attraction | Not yet | 1 |
| | | | As the main attraction | 2 |
| | | 5. Attraction classification level | The attraction that only attracts visitors but does not extend the length of stay of visitors | 1 |
| | | | The attraction that extends the length of stay of visitors | 2 |
| | | 6. Strength potency | Potency to combine *T. fuscus* attraction and other attraction (panorama/beautiful nature, culture community) less able to improve *T. fuscus* tourism and impression toward *T. fuscus* | 1 |
| | | | Potency to combine *T. fuscus* attraction and other attraction (panorama/beautiful nature, culture community) support to improve *T. fuscus* tourism and impression toward *T. fuscus* | 2 |
| | | 7. Amount of diversification of *T. fuscus* potency | Only one item | 1 |
| | | | Have attractions item potencies | 2 |
| | | 8. Possibility of activities | *T. fuscus* attraction only passive activities (tourists cannot participate actively in tourism) | 1 |
| | | | *T. fuscus* attraction passive and active activities (tourists can participate and has interaction with *T. fuscus*) | 2 |
| | | 9. The potential variety of supporting the attraction | Have no supporting attraction | 1 |
| | | | Have supporting attraction | 2 |
| B. Environment around it | 1. The richness of food diversity | Poor | 1 |
| | | | Middle | 2 |
| | | | Rich | 3 |
| | 2. The richness of biodiversity (flora and fauna) in *T. fuscus* habitat | Poor (less number of species) | 1 |
| | | | Middle | 2 |
| | | | Rich | 3 |
| | 3. The beauty of nature *T. fuscus* habitat | Less beautiful | 1 |
| | | | Middle | 2 |
4. The uniqueness of nature *T. fuscus* habitat

| Beautiful                      | Common in everywhere | 1 |
|-------------------------------|----------------------|---|
|                               | Unique and exclusive | 2 |

5. Completeness of nature *T. fuscus* habitat

| Not complete/disturbed        | 1 |
| Undisturbed                   | 2 |

6. Cleanliness of habitat *T. fuscus* and surround it

| Not clean and not maintained | 1 |
| Clean and maintained         | 2 |

7. Safety of habitat *T. fuscus*

| Not safety                    | 1 |
| Safety                        | 2 |

**Appendix B.** Variable and scoring of location for *T. fuscus* tourism (a modified of [23], and a modified of ADO-ODTWA guidelines [24])

| Indicator                      | Sub-indicator       | Variables                                                                 | Criteria                  | Weight |
|--------------------------------|---------------------|---------------------------------------------------------------------------|---------------------------|--------|
| I. Amenities                   | A. Main facility    | Facility to enjoy and watching *Tarsius*                                 | Not available             | 1      |
|                                |                     |                                                                           | Available                 | 2      |
|                                |                     | Toilet facility                                                           | Not available             | 1      |
|                                |                     |                                                                           | Available                 | 2      |
|                                |                     | Social facility (worship place, shelter, relaxing place, rest area, cafeteria) | Not available             | 1      |
|                                |                     |                                                                           | 1 - 2 facilities          | 2      |
|                                |                     |                                                                           | > 2 facilities            | 3      |
|                                | B. Supporting       | Information center                                                        | Not available             | 1      |
|                                | facilities          |                                                                           | Available                 | 2      |
|                                |                     | Parking area                                                              | Not available             | 1      |
|                                |                     |                                                                           | Available                 | 2      |
|                                |                     | Souvenir shop                                                             | Not available             | 1      |
|                                |                     |                                                                           | Available                 | 2      |
| II. Accessibility              | A. Road and traveling time | Traveling time from the capital city                                       | Far (> 3 hours)           | 1      |
|                                |                     |                                                                           | Middle (2 - 3 hours)     | 2      |
|                                |                     |                                                                           | Close (< 2 hours)        | 3      |
|                                |                     | Public transportation availability                                        | Not available             | 1      |
|                                |                     |                                                                           | Available but not regular | 2      |
|                                |                     |                                                                           | Available and regular     | 3      |
|                                |                     | Road facilities to tourism objects                                         | Dirt road                 | 1      |
|                                |                     |                                                                           | Makadam road              | 2      |
|                                |                     |                                                                           | Asphalt                   | 3      |
|                                |                     | Road facilities inside a destination                                       | No roads, only stub roads | 1      |
|                                |                     |                                                                           | Available                 | 2      |
| III. Supporting from Management| A. Management Internal (Babul NP) | Development plan                                                          | Not listed in the management plan | 1      |
|                                |                     |                                                                           | Listed in the management plan | 2      |
|                                |                     | The readiness of human resources (instructors, interpreters, guides)      | Not yet                   | 1      |
|                                |                     |                                                                           | Middle                    | 2      |
|                                |                     |                                                                           | Ready                     | 3      |
|                                |                     | Linkages with other tourism activities in a destination                   | Single, no connection with other activities | 1      |
|                                | B. Promotion        | Condition                                                                | Have no material, Not     | 1      |
| Material under process but not publishing | 2 |
| Material has been developed and published intensively | 3 |
| do not have a tour package visit agenda | 1 |
| already has a tour package visit agenda | 2 |
| Refuse to accept tourism activities in their area | 1 |
| Accept tourism activities in their area | 2 |
| Refuse | 1 |
| Support | 2 |
| Not capable | 1 |
| Need the training to improve capabilities | 2 |
| Capable | 3 |