

Development strategy for ecotourism management based on feasibility analysis of tourist attraction objects and perception of visitors and local communities

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Abstract. *Harianto SP, Masruri NW, Winarno GD, Tsani MK, Santoso T. 2020. Development strategy for ecotourism management based on feasibility analysis of tourist attraction objects and perception of visitors and local communities. Biodiversitas 21: 689-698.* Liwa Botanic Gardens (LBG), Lampung, Indonesia ecotourism development must be carried out as an effort to develop nature tourism with the most careful consideration in its management, without temporary benefits orientation, and the doers must have benchmarks in the process of sustainable development so that the next generation can utilize it in their time. This study aims to determine the management conditions and potential of Tourist Attraction Object (TAO) that have been operating — knowing the perceptions of tourists and local people. The method used is (i) scoring; (ii) assessing the perception of satisfaction of tourists and local people; (iii) doing intensive interviews with area managers and community leaders; (iv) identifying problems using the SWOT matrix; (v) constructing a development strategy. Data collection techniques with accidental sampling method with a total of 130 respondents based on tourist visits at the time of the study. The management of the LBG was previously managed by the Forestry Service until 2016, and in 2017 the management was handed over to the West Lampung Research and Development Agency (Balitbang). The results showed that overall, TAO gets a feasibility rating to be developed. The perception of tourists is quite satisfied with the attractions offered and the services of the manager. The community is satisfied with the ongoing management. The community wants are always to be involved in the development process. Researchers give advice on the examination of the management and marketing system in introducing the LBG to increase local and foreign tourist visitors.

Keywords: Ecotourism, LBG, Liwa Botanic Gardens, Tourist Attraction Object

INTRODUCTION

As one of the provinces with high tourism potential, Lampung Tourism Department has also determined seven regions that are Lampung Tourism Strategic Leading Areas. The seven regions consist of Bandar Lampung City, Way Kambas National Park, Krui and Tanjung Setia Beach, Kiluan Bay, Bakauheni and Siger Tower, Krakatau Mountain and Sebesi Island, and Bukit Barisan Selatan National Park (TNBBS). One of the attractions in the Bukit Barisan mountains is Liwa Botanic Gardens (LBG).

LBG is located in Kubu Perahu village, Balik Bukit Sub-district, West Lampung District. LBG has an area of 86 ha, which was inaugurated in 2017 with the theme of Indonesian Ornamental Plants. As a new tourist attraction, LBG has many aspects that need to be developed. The development of tourism destinations can be seen from a number of major issues, namely: (i) climate change and natural disasters, (ii) availability of connectivity and infrastructure that are not optimal yet; (iii) community readiness around tourism destinations that is not optimal; and (iv) ease of investment that is still not optimal yet (Kemenpar 2015). In terms of the problems in the LBG area, it still has to be developed in infrastructure, surrounding communities and investment in tourist areas.

At present, the community around the LBG area is not directly involved in its management. However, a persuasive approach is still taken to provide an understanding of the importance of the presence of LBG in this region. There is still a need for collaboration with several scientific disciplines (such as the private sector and the community around the area) to realize a focused and integrated development concept, especially which is oriented to the potential characteristics of the region and the ability to develop the region.

The development result of LBG tourism seems quite attractive to tourists. This is can be seen from tourists visiting number from 2017 (10,064 people) to 2018 (63,321 people). The increasing number of tourist arrivals in the LBG makes it a lively tourist attraction, especially by those who are interested in nature and photography. Consequently, it is necessary to do a comprehensive assessment with the aim to examine the potential of tourist attraction objects (TAO) that need to be further developed. Later, the values obtained from the valuation can be used as valuable assets to collaborate with the private sector that supports the development of LBGTAO.

The development of the attractiveness and extent of the ecotourism area must be followed by consideration and or fulfilling the demand from visitors or tourists. This is in

line with the opinion of Suwarjoko and Warpani (2007) that the development of ecotourism must be really carried out and must be more careful in its management, not trapped or not prioritizing profits in a short time, but must have a benchmark in the process of sustainable development. In other words, the regeneration of the nation's successors can benefit from the same natural resources. Therefore, visitors' perceptions, especially criticisms and suggestions as well as satisfaction levels are also needed in strengthening the development of ecotourism areas. Later, the data obtained will be used to set the strategy in developing LBG TAO.

In addition, the development of the LBG tourist area is inseparable from its location on the ridge of the Bukit Barisan mountain range. This area has the potential of natural resources both biological and non-biological which is quite high, and has complete ecosystem conditions including coastal ecosystems, rain forest lowlands to the mountainous rain forest. So, a special strategy is needed for the development of tourism in the surrounding area without disturbing the ecosystem and forest sustainability in the Bukit Barisan region.

The development of tourism is increasingly needed in every tourist area, especially new tourist areas such as LBG and it shows their existence and raises the level of attractiveness that will attract tourist interest. In addition, LBG's status as a botanical garden has a function as an ex-situ conservation area with the theme of Indonesian ornamental plants and is a representation of TNBBS vegetation, which makes it a challenge for developing strategies to evolve LBG tourism areas (Solihah 2015). LBG must be able to develop strategies that are able to accommodate the needs of tourists through facilities and management of tourist areas and also the needs of the surrounding community for the involvement in management. In addition, the availability of the LBG must not disturb the ecosystem around the forest.

MATERIALS AND METHODS

This research takes place in the ecotourism area of Liwa Botanic Gardens (LBG), West Lampung, Indonesia from July to September 2019. The research method in this study is a qualitative method with a case study approach. Using this type of case of study research, this research intends to provide a description of the development strategy of the existence of the LBG ecotourism.

The research process includes several stages, from preparation, field observation, investigation, and data collection, data analysis, to compile the final report. While the validity of the data using source triangulation, triangulation of sources was carried out by comparing observations obtained in the field with the results of interviews, then the results of interviews were compared with related documents according to the research field, so that using triangulation of sources will direct researchers to collect required data using various data sources available.

The research method in this study is the assessment of tourist objects based on the Analysis of the Operating

Area-Natural Tourist Attraction Objects (AOA-NTAO) Book (Sekartjakrarini and Soehartini 2003). The other method interviews. In accordance with the opinion of Meleong (2014) that the interview is a conversation with a particular intention to get data that is consistent with the reality in the field. The conversation is done by asking questions called interviewees, and those who provide answers to questions given by interviewers are called (interviewees) (Meleong 2014). The interview was conducted by giving several questions to the informants to obtain a direct explanation and more accurate information from the parties about the development strategy of ecotourism management. To limit the answer from the informant, the Likert scale is used. A Likert scale is a psychometric scale commonly involved in research that employs questionnaires. It is the most widely used approach to scaling responses in survey research, such that the term (or more accurately the Likert-type scale) is often used interchangeably with rating scale, although there are other types of rating scales.

Questionnaires were given to tourists and local communities, aiming to find out their respective perceptions of TAO and LBG management that are currently underway. Total respondents were 130 respondents (tourists) based on data from the last five months' visit (January-June 2019). Respondents were interviewed and ask using accidental sampling. The respondent was interview was actually obtained by chance (Hendriyani 2018). Sampling is taken every day (except Wednesday and Friday) at 8: 00 a.m.-10: 00 p.m. and 3: 00 p.m.-6: 00 p.m. for three months from July to September 2019. The timing of the data collection is based on the average number of visits in the morning and evening. Overall, the number of visits on a weekday is far less than the number of visits on the weekend. This can be seen from the number of managers in tourist sites. On a weekday, the division of working hours (shift) is carried out, but on weekend, all the managers are on standby at the tourist site.

The next step is to establish a strategy for developing the TAO and the region as a whole by using a SWOT analysis based on previously obtained data. A SWOT analysis examines the existing internal factors (strengths, weaknesses) and external (opportunities, threats). By understanding the strengths, weaknesses, open opportunities, and threats, development strategies that include predetermined goals can be arranged. One model used in compiling strategic factors is the SWOT matrix. For more details, the SWOT matrix model can be seen in Table 1. The results of the SWOT analysis can provide strategic policies that can be done by local governments in developing tourist attractions.

The collected data includes the potential, natural beauty, and types of natural resources that are superior in the tourism object of the LBG. Researchers obtained data by observing/assessing directly in the field. Other criteria observed by researchers are recreational activities, environmental cleanliness, safety and comfort of the location as well as the quality of management and services of the staff of LBG tourism object. All of which the researchers successfully obtained by conducting open

interviews with the manager of the object, the visitors of the object tourism, related institutions, and the community around tourism objects.

RESULTS AND DISCUSSION

Management and Assessment of Attraction Objects of Liwa Botanic Gardens (LBG) using AOA-NTAO

Development strategy for Liwa Botanic Gardens management

West Lampung has one of an excellent tourist destination, namely the LBG, which is visited by many tourists. The tourism object of the LBG, from the beginning, was designated as a tourist attraction and opened for the public. The visiting tourists are increasing significantly from year to year. Various efforts have been made by the management of the tourism area to increase the number of tourists and to introduce the natural beauty offered by LBG to the public. Some of the efforts that have been carried out are improving current facilities and adding more supporting facilities (attributes), providing excellent services, and providing a web that contains information on tourist destination objects, including profiles, history, potential tourists, and images.

At present, the surrounding community is less directly involved in its management. This is because the current management has been arranged and determined by the government and the parties concerned, so it is not easy to recruit. There are only a few surrounding communities that can benefit directly from the presence of this LBG, such as selling food and drinks or as technical personnel in the nursery. This is in accordance with the opinion of Jamal and Stronza (2009), assert that involving the local communities in tourism development within and around protected areas is crucial in bridging the gap between governance and use of the resources in a tourist destination.

Human Resources are all people who are directly involved by giving ideas, energy, and thoughts to all the potential found in the tourism business in order to achieve welfare of life in a balanced and sustainable order. The local community is tourist destination stakeholders who can be empowered to form tourism awareness group (*Pokdarwis*) so that all activities of tourists will be more directed in carrying out development activities and preserving the environment of attractions.

Assessment of attraction objects of Liwa Botanic Gardens using AOA-NTAO Book

To assess the LBG TAO value, an analysis based on ecotourism criteria and indicators is implemented using a scoring method in accordance with a predetermined score from each criterion. Later, the obtained data will be analyzed using a SWOT analysis, which will be used to develop strategies in developing LBG area management.

According to Karsudi et al. (2010), after comparison, the feasibility index will be obtained in %. The TAO eligibility index is as follows: (i) Feasibility level > 66.6%: Eligible to be developed. (ii) Feasibility level 33.3%-

66.6%: Not yet feasible to be developed. (iii) Feasibility level <33.3%: Not suitable to be developed.

Perception of tourist visitors and communities

Tourist perception

Perception is a person's process of determining, organizing, and sharing information with the aim of creating a meaningful world image (Rangkuti 2009).

The results of distributing questionnaires to tourists were some collected data, then they were put together in the form of tables and graphs. The data in question is the tourist perceptions on the management of the area and the attraction of LBG attractions. For more details, you can see in table 3.

Local community perception

The perception of local communities towards ecotourism destinations is needed for further development. This is based on the ecotourism basis that the community needs to be involved in the management process (planning, monitoring, and evaluation). At its inception, the local community was not interested in participating in the management of attractions. However, by conducting a persuasive approach, the local community began to understand and support the LBG as a tourist destination. At present, management always updates with the latest information about developments and future plans in every meeting with traditional leaders and surrounding communities.

The local community considers that the LBG is indeed a potential ecotourism destination, because of its beauty and atmosphere. The community has begun to benefit from tourist destinations such as selling food and drink that can increase income to improve the community's economy. The public wants to know more about the process of managing the tourist area, including planning the development of management strategies that will be carried out for the sake of ecotourism preservation, which will be held regularly.

LBG zone management development strategy

Planning for the development of the LBG is based on a TAO analysis. The results were obtained from the AOA-NTAO book analysis survey and interviews with local communities affiliated with the LBG and management.

Internal factors are Strengths and Weaknesses, while external factors are Opportunities and Threats. The strength analysis in question is the superiority of the LBG tourism area in aspects of land use, eco-tourism potential, and the policies and role of institutions. The weaknesses in question are the conditions of management and policy, environmental, and socio-economic aspects, which are seen as hampering the LBG management program. The opportunity in question is an external condition that can bring benefits if it can take advantage of it.

Based on the identification of internal factors and external factors, a SWOT matrix is developed. The SWOT matrix for ecotourism development in LBG can be seen in Table 1.

Table 1. SWOT matrix (Rangkuti 2014)

	Internal factors	Strengths (S) Determine Internal Strength Factors	Weakness (W) Determine the Internal Weakness factor
External factors			
Opportunities S (O) Determine External opportunity factors		Strategi S-O Create strategies that use power to take advantage of opportunities	Strategi W-O Create strategies that minimize weaknesses by exploiting opportunities
Threats (T) Determine the threat factor		Strategi S-T Create strategies that use power to overcome threats	Strategi W-T Create strategies to minimize weaknesses and avoid threats

Table 2. Final results of evaluation of all aspects of Liwa Botanic Gardens TAO development, Lampung, Indonesia

Criteria	Score	Weight	Total score	Maximum score	Index (%)
LBG Attraction	135	6	810	1080	75
LBG Market Potential	40	5	200	300	66.67
LBG Relations / Accessibility Levels	65	5	325	600	54.16
Conditions Around LBG	160	5	800	1050	76.19
LBG Management and Services	65	4	260	360	72.22
LBG climate	100	4	400	480	83.33
LBG Accommodation	20	3	60	90	66.67
LBG Visitor Facilities and Infrastructure	55	3	165	180	91.67
LBG Clean Water Availability	130	6	780	900	86.67
Relationship with Attractions Around the LBG	85	6	510	900	56.67
LBG Security	105	5	525	600	87.50
Carrying Capacity of LBG Regions	100	3	300	450	66.67
LBG Visitor Settings	20	3	60	90	66.67
LBG Marketing	15	3	45	90	50
LBG Market Share	70	3	210	270	77.78
Amount	1165		5450	7440	71.86
Min	15.00		45.00	90.00	50.00
Max	160.00		810.00	1080.00	91.67
Mean	77.67		363.33	496.00	71.86
SD	44.31489054		267.7730027	348.5439099	12.48243692
Sqrt	3.872983346		3.872983346	3.872983346	3.872983346
	11.44205554		69.13869199	89.99365057	3.222951354
Average	77.67±11.44		363.33±69.14	496 ± 90	71.86 ± 3.22

Discussion

Management and Assessment of Attraction Objects of Liwa Botanic Gardens (LBG) using AOA-NTAO

Development strategy for Liwa Botanic Gardens management

The strategy for developing the management of the LBG must-have benefits and they are for the surrounding community. By involving the community to play an active role in developing the management of the LBG directly, the community can receive benefits, namely creating community development funds, creating jobs in the tourism sector, increasing community income, distributing profits from the results of the LBG which are fairly divided. This is in accordance with Dodds et al. (2016) research that tourism business which involves the community if properly developed can be one of the mechanisms to reduce poverty and improve quality of life. Community participates can promote the conservation of natural resources and increase local benefits through participation in tourism activities (Sebele 2010). In other words, the community must be involved in the development strategy of managing the LBG

so that the surrounding community can feel the benefits directly.

In the strategy of developing the management of the LBG, it is necessary to take the right steps. This is in accordance with the opinion of Godfrey and Clarke (2000) that there are 3 steps that need to be done, namely (i). Identify opportunities and constraints that occurred in the LBG since it has been proclaimed as a tourist attraction. By identifying various opportunities and constraints, it can be used as an evaluation material to determine the next steps and strategies to be taken to increase local and foreign tourist visitors. (ii). Establish development goals and objectives by addressing issues that require attention in the short, medium, and long term. The manager of the LBG must create goals, and targets that will be achieved both in the short, medium, and long term. With certain goals to be achieved, it can motivate the LBG's stakeholders to improve this asset to be a better destination to visit. (iii). Determine the steps and actions that will be taken to achieve goals and objectives.

Table 3. Perception (satisfaction) of Liwa Botanic Gardens visitors, Lampung, Indonesia

Statement	Perception					
	0	VD	NS	FS	P	VS
A security post availability	0	2	21	82	13	12
Parking space availability	0	0	1	76	43	10
Road signs and directions availability	0	2	16	71	19	22
Regular placement of tourist facilities and infrastructure	1	7	15	24	81	2
Information and service center availability	2	2	3	46	69	8
Cleanliness and the physical condition of tourist facilities	0	0	2	58	61	9
Availability of sanitation facilities such as latrines and trash	3	17	38	52	15	5
The condition of the road network to attractions	2	14	28	38	41	7
Availability of transportation modes to tourist attractions	1	18	31	45	24	11
Availability of accommodation facilities such as hotels and inns	5	12	47	42	19	5
Easiness of reaching attraction places	6	25	19	68	9	3
Places to eat and drink	0	6	11	78	18	17
Availability of utilities such as electricity networks, clean water and communication	2	6	15	27	56	24
Affordable ticket costs	0	0	2	36	51	41
The beauty of natural attractions	1	19	43	62	5	0
The beauty of artificial attractions	1	8	29	34	41	17
A feeling of pleasure and at home feeling	3	7	9	61	34	16
Suitability for a gathering place with family or friends	1	4	3	35	55	32
The diversity of tourist attractions offered	2	22	47	43	15	1
The authenticity of natural attractions	2	23	34	55	16	0
The existence of distinctive regional art and cultural attractions	5	51	67	7	0	0
The existence of regional foods and drinks	1	7	15	37	49	21
The existence of unique souvenirs or the region typical souvenirs	2	11	29	59	18	11
Amount	40	263	525	1136	752	274
Percentage	1.34	8.80	17.56	37.99	25.15	9.16
Min	0.00	0.00	1.00	7.00	0.00	0.00
Max	6.00	51.00	67.00	82.00	81.00	41.00
Mean	1.74	11.43	22.83	49.39	32.70	11.91
SD	1.71	11.63	17.53	18.92	22.27	10.70
Sqrt	4.80	4.80	4.80	4.80	4.80	4.80
	0.36	2.43	3.66	3.95	4.64	2.23
Average	1.74±0.36 11.43±2.43 22.83±3.66 49.39±3.95 32.70±4.64 11.91±2.23					

Note: Not Responding (0); Very Dissatisfied (VD); Not Satisfied (NS); Fairly Satisfied (FS); Satisfied (P); Very Satisfied (VS)

An ecotourism destination needs to be continuously developed to increase the potential of tourism objects in it. Therefore, it is necessary to plan the development of the LBG tour so that it can be better than before. Three main principles of sustainability development (McIntyre 1993): (i) Ecological Sustainability, namely ensuring that development is carried out in accordance with the ecological, biological, and diversity of existing ecological resources. (ii) Social and Cultural Sustainability, namely, ensuring that the carried out development has a positive impact on the lives of surrounding communities and is in accordance with the culture and values practiced by the community. (iii). Economic Sustainability, namely ensuring that the carried out development is economically efficient and that the resources can last for future needs. In accordance with Pradika's explanation (2013), the strategy for the development of management of the LBG as a tourist attraction and as a tourist destination needs to be improved and developed, namely a timely and appropriate strategy by formulating a strategy for developing tourism objects by using a SWOT analysis.

Assessment of attraction objects of Liwa Botanic Gardens using AOA-NTAO Book

Based on information from Table 2, the feasibility index for TAO LBG is 71.86%. The score indicates that LBG is classified into ecotourism destinations that are feasible to be developed. This can be a valuable asset that it can get cooperation with the government and the private sector in developing it into a full tourism destination. In accordance with the statement of the Directorate General of Tourism (1990), that tourism potential is a natural resource that has a special attraction, naturally or artificially, for every visitor both local tourists and foreign tourists, such as cultivation. Another opinion, Attractions can be dramatic natural wonders, quaint or bustling cities, pristine beaches, historic landmarks or vibrant community festivals. Destination attractions epitomize the essence of a place, highlight its primary nature and identity, and are the core determinants of destination's appeal, economic prosperity, and competitiveness (Vengesai et al. 2009).

Table 4. SWOT factors

		No.	Opportunities	No.	Threats
Internal factors		1	The high interest of the general public to travel nature. At present many urban communities, in particular, are getting bored with mass tourism activities.	1	Lack of public or visitor awareness in terms of cleanliness or improper disposal of the rubbish.
		2	The rapid development of various print and electronic media is a great opportunity to promote the LBG more widely to the general public.	2	Environmental degradation with the increasing number of visitors
		3	With the development of the LBG, business opportunities are increasingly available to reduce unemployment for the surrounding community.	3	Safety and safety factors of visitors with an increasing number of visitors.
	External factors	4	With access to the freeway (Toll), which continues to be expanded by the government, the access to the LBG is easier	4	Liwa is famous for areas that are vulnerable or frequently hit by earthquakes.

No.	Strengths	Strategi S-O	Strategi S-T
1	The high ecological and aesthetic value of the region	1. Maximize the promotion again through the growing electronic media, such as by showing the tourist attraction that is available and clearer, as well as the tour packages offered.	1. Assuring the manager to provide guidance and advice for visitors who will enter the ecotourism area so they will not litter, and a lot of trash bins are available along the road.
2	Facilities and infrastructure that are good enough to make it easy for tourists.		
3	Licensing mechanism and event registration can be done via the internet, i.e., can be via e-mail manager, an ecotourism blog area, and contact person management. Making it easier for groups who want to carry out activities in LBG.	2. Empowering the stakeholders for the development of ecotourism and environmental preservation	2. Land use in accordance with the potential of ecotourism to increase economic contributions for managers and the community. 3. Providing more maximum supervision, especially to visitors who are in groups and or there are many children or women.

No.	Weakness	Strategi W-O	Strategi W-T
1	Variations in types of tourism activities are limited so it can make tourists saturated.	1. The development of types of tourism activities can be drawn from the idea of tourists and people who are increasingly interested in developing the region.	1. We are adding warning signs in the area, regarding the importance of maintaining cleanliness, plus facilities such as adding trash bins in the ecotourism area/path.
2	The intensive cooperation with partners related to the promotion and development of the region is not maximal yet.	2. The natural mountainous conditions can be utilized by increasing the number of managers in the security sector by optimizing the existing local human resources.	2. Improve road safety on the road leading to tourist attraction so that it is safer for visitors, especially children, for example, by repairing muddy and slippery roads.
3	Signposts/signs are not enough. This makes the first-time visitors come to the LBG area confused.	3. Adding signposts to the ecotourism area in line with the raise of public interest in ecotourism	
4	Limited accessibility to the region.		
5	The location of the LBG is far from the provincial capital and the international airport.	4. By optimizing the promotion of the tourism potential of the LBG, as the general public interest in ecotourism gets higher.	

One that tourists are looking from ecotourism attraction is for unwinding with nature, sharing experiences, knowledge experiences and real-life experience (Habibah et al. 2012). The most important elements as a reference that will be used as an attraction for an ecotourism area are while Lee et al. (2010) identify four dimensions: tourist attractions (natural resources, cultural assets), accessibility (external access, internal access), amenities (lodging and catering, recreation facilities), and complimentary services (information services, safety, and sanitation).

The assessment of the potential objects and the attractiveness of LBG Tourism is done by direct observation after identifying the objects. Objects considered potential will be recorded. The components assessed from the LBG Tourism are the attractiveness of the tourist sites, accessibility to reach the location, and supporting facilities and infrastructure that support the development of tourist sites. For more details on the assessment of the object of ecotourism attractions are as follows:

Attraction. The attractiveness of a tourist area location is the main reason for visitors to visit tourist sites in order to carry out tourism activities. The attraction of the LBG attraction is interesting enough to attract the interest of local and foreign visitors. The attraction can be in the form of the uniqueness of prominent natural resources such as the attraction of cleanliness, and comfort of tourist sites. Each of these attractions has its respective values, and these values indicate how strong an attraction can attract the interest of visitors.

As one of the tourist destinations that offer the concept of ecotourism, LBG plays an important role for nature-based education and conservation. This is what makes ecotourism different and gives its own charm compared to other types of tourism (Aziz et al. 2017). In addition, the same thing is stated by Cooper et al. (1998) who said that there are several components of tourist attractions that can attract tourists to come, namely, tourist attractions in the form of nature, artificial (human work), culinary tourism or the event of something that will attract the attention of visitors.

Accessibility. Accessibility is an important factor that must be considered to increase visitors' number to LBG tourist attraction. If there is no transportation network access on a tourist attraction, visitors are not interested and cannot visit to enjoy the natural tourist attraction. Good transportation infrastructure and tourism development are highly interrelated that without transportation tourism planning and destination management are unthinkable (Tamrat 2016). Whereas if a tourist attraction is difficult to reach, tourists will not have an interest in visiting it (Wiseza 2017). Accessibility discusses distance, road conditions, travel time from the city center and transportation. LBG is located right in the center of the capital city of West Lampung District. This is one of the benefits of LBG, which is located right in the middle of the city so that it is easy to find.

An assessment of the accessibility component results in a dissatisfied value (Table 3). It is composed of the elements of the condition of the road, the distance from the city to the tourist attractions, the type of road, and the duration of travel time. Access from the Capital City of Lampung Province to West Lampung can cover a distance of \pm 238 km with a travel time of about 4-5 hours. The length of the trip is one of the obstacles causing the low value of tourist satisfaction with accessibility, especially distance from the city and duration of travel time. However, for transportation, it can be considered sufficient for tourists to visit the LBG. Transportation available from Bandar Lampung to LBG is public transportation such as buses or travel cars, or the visitors can use their own motorcycle or cars to visit LBG.

Socio-economic environmental conditions. An assessment of socio-economic and environmental conditions is needed to support the potential market value. Because environmental conditions make visitors comfortable so they can enjoy the beauty of nature. The results of the assessment of the socio-economic, environmental conditions are quite satisfying, because spatial planning is neat, comfortable, and safe. This proves

that the socio-economic, environmental conditions around the LBG Tourism object have met the criteria of the National Scale Standard Operating Procedures.

Tourism development cannot be separated from the social environmental conditions around the tourist environment. The tourism activities do not only have an impact on the benefits of the local government, but the surrounding community will also feel the impact. The impact given by tourism activities is expected to have a positive effect so that it can improve economic welfare and reduce unemployment. The development of the tourist area must be planned and directed to improve or enhance the facilities, accessibility, and attractions of existing tourist objects in a better and more beneficial direction so it will increase the number of visiting tourists. In addition, there should be attractions that are able to provide a benefit for the surrounding community and local government (Weidenfeld et al. 2010; Ram et al. 2016; Zorpas et al. 2018).

Communities can take advantage of the LBG ecotourism by opening a business of trading, such as selling local food crops, selling accessories, selling clothes that are made as tourist attraction icons, and providing services for tourists. The community will feel happy if the Tourism object of the LBG can attract many tourists to visit from all directions so that the welfare of the surrounding community will also increase. Therefore, it is necessary to do empowerment to the community with a local economic empowerment program facilitated by the local government, for example, by holding training for the community on food processing or handicrafts making. Thus, it can create new jobs and reduce the number of unemployed. The existence of a tourist attraction has a significant positive effect on labor (Guimarães et al. 2016; Li et al. 2016; Porto and Espinola 2019), especially the community around a tourist attraction.

Accommodation. Accommodation is one of the infrastructure facilities that contribute to the tourist attraction factor that is needed by visitors in tourist locations, especially for visitors who are far from the Tourism object of the LBG (2015). The elements assessed by visitors are the number of lodgings and the number of rooms within a 15 km radius of the LBG attraction. Field observations and information obtained from community leaders showed that accommodations on the surrounding community are already inadequate. There are also those who choose to set up a tent in the tourism object area of the LBG or stay at a resident's home. The importance of this accommodation stated by Medina-Muñoz et al. (2016) that tourism accommodation is a basic element of the offer given by a tourist destination. The existence of accommodations contributes to the desire of tourists to visit. The existence of accommodations in tourist destinations has a positive effect on the sustainability of these tourist destinations.

Supporting infrastructure. Infrastructure, according to Rosadi (2015), is a tool or facility that can support to facilitate and provide comfort for tourists who are enjoying the natural beauty of the LBG ecotourism. The supporting facilities and infrastructure that are around the tourist

attraction of the LBG are considered within the range of 10 km square. Infrastructure facilities include the post office, telephone network, health center, electricity network, and drinking water network. Supporting facilities assessed are restaurants, shopping centers/markets, banks, souvenir/souvenir shops, and public transportation, so they need to be provided by the local government. Means are one of the factors that play an important role in attracting visitors and supporting factors to facilitate visitors enjoying the attraction of the LBG.

Availability of clean water. Clean water is a factor that must be available in the development of a tourist site both for management and services. The volume (adequacy) of water at the location of the LBG is considered quite a lot. In general, LBG water can be consumed directly, but a simple treatment, such as boiling, is needed and the water is always available throughout the year even during drought. The distance of the water source to the location of the object is very close (<1 km) and is very easy to flow. As a human, tourist has a very important need for the existence of clean water. Tourists will need clean water in their tourism activities. The availability of clean water is very much needed to support management facilities and tourism services (Ariefianda et al. 2019; Khalifa and Bidaisee 2018).

Perception of tourist visitors and communities

The results revealed that in general, there were no significant differences in the gender level of visitors (50% male and 50% female). That's because the characteristics of the LBG are good for male and female visitors, especially young people. Table 2 shows the perception (satisfaction) of visitors to the LBG. It reached the highest rate of 37.99%. This score shows that the management of the tourism area has been going well. However, some efforts to improve facilities and quality in and around the area are still needed.

The following are the attributes or statements that get the highest score based on the choice of respondents: security post; regularity of placement of tourist facilities and infrastructure; a place to eat and drink (stalls); vehicle parking; and other statements that give a feeling of satisfaction to visitors. However, there are several statements from the table that are considered unsatisfactory and need to be further developed, including typical cultural arts attractions, diversity of tourist attractions offered; the availability of accommodation facilities such as hotels or inns; and the beauty of natural attractions.

Ecotourism will be better if it is enriched with artificial attractions such as local cultural and cultural performances. Because this addition will entertain visitors, visitors can learn one form of Indonesian cultural diversity. Furthermore, this show is a promotion of the government program on the LBG, namely "*Pesona Indonesia*." *Pesona Indonesia* is destinations advertisement from the Indonesian Tourism Ministry. The purpose of this advertisement is to promote domestic tourist destinations that are very rich and beautiful. Indonesia has many choices of tourist destinations like art and cultural tourism, natural tourism, history to modern tourism in Indonesia (Dzuliyana et al. 2019). So, this step will also be appropriate to attract the interest of tourists to enjoy natural

and cultural tourism in the LBG.

There are some visitors, especially those from afar, who are a little disappointed with the tourist attractions displayed by the LBG. The manager stated that currently there are only a few attractions offered to tourists, but based on the strategic plan of the LBG that the construction of the LBG is still ongoing, some of which is the construction of some artificial attractions such as ponds and some children's playgrounds. So that in the foreseeable future, there will be several new rides that will add the diversity of tourist attractions as a whole. Then, another statement that disappoints visitors is the beauty of its natural attractions. Natural attractions that can be enjoyed by visitors at this time are only the scenery and the beautiful mountain atmosphere, whilst there are not many big trees in the LBG. This is because the existing plants are young plants, so they do not have a large and tall canopy.

LBG zone management development strategy

The development of tourist attractions is gradually playing a crucial role in tourism economy, regional economy and national economy (Luo 2014). The formulation strategies that will be used to develop LBG was done using the SWOT method based on the results of data obtained from the AOA-TAO results that have been carried out previously. The analysis was performed with various LBG stakeholders' involvement, namely the management, local communities, and researchers. Input from local communities and management is needed so that researchers could get the current condition of the LBG from another perspective. Community involvement is also intended to ensure the continuity of the existence of LBG and to ensure the continued support from the surrounding community on the development of LBG.

SWOT analysis is considered as the most appropriate method chosen to determine the LBG development strategy because this method has ability to determine the strengths and weaknesses of the object of research (Khoiriyah et al. 2012). SWOT method is based on two tiers of analysis. First step is to analyze the internal factors and the second step is to analyze the external factors (Reihanian et al. 2012) with the assumption that an effective strategy will maximize strengths and opportunities, while minimizing weaknesses and threats (Rangkuti 2014). Internal factors are Strengths and Weaknesses, while external factors are Opportunities and Threats.

Strengths referred to the advantages possessed by the LBG tourism area in the aspects of land use, ecotourism potential and the policies and role of the institution. While weaknesses are aspects of policies, environmental conditions and socio-economic conditions that are seen as hampering the LBG management program. Opportunity is an external condition that can bring benefits if it can be utilized. While threat is an external condition that can bring harm if not managed properly. LBG development strategy could be determined based on SFAS (Strategic Factors Analysis Summary). The SFAS matrix summarizes strategic factors by combining the external factors and the internal factors from the EFAS Table (Abdul Rauf 2014).

Table 5. IFAS Matrix and EFAS LBG Development Strategy

EF	IF	Strength	Weaknesses
Opportunity		Strategy (SO)	Strategy (WO)
		1.59+1.72 = 3.31	1.81+1.72 = 3.53
Threat		Strategy (ST)	Strategy (WT)
		1.59+1.43 = 3.02	1.81+1.43 = 3.24

The calculation results show that Strength has a score of 1.59 and Weaknesses has a score of 1.81. While external factors such as Opportunity have a score of 1.72 and Threat have a score of 1.43. Strategy determination is explained in the IFAS and EFAS matrices (Table 5).

Results show that the score acquisition on the S-O Strategy (Strength-Opportunities) of 3.31 while W-O (Weaknesses-Opportunities) strategy of 3.53. The S-T Strategy (Strength-Threats) is 3.02 and the W-T (Weaknesses-Threats) Strategy is 3.24. The W-O (Weaknesses-Opportunities) strategy is a strategy with the highest scoring value so that the strategies that must be taken are to minimize the weaknesses of LBG by continuing to take advantage of the opportunities that exist. The W-O strategy based on the analysis of the assumptions of the previous strategy has been outlined below: (i) The development of types of tourism activities can be drawn from the idea of tourists and people who are increasingly interested in the development of the area (WO1). (ii) The natural conditions in the form of mountainous landscapes can be utilized by increasing the number of managers in the security sector by optimizing surrounding human resources (WO2). (iii) Adding signposts to the LBG area along with the higher public interest in ecotourism (WO3).

Optimizing the promotion of the tourism potential of the LBG so that the general public's interest in ecotourism is higher, so the LBG is far more attractive for tourists to visit (WO4).

In conclusion, LBG is managed by the West Lampung Research and Development Agency (Balitbang). Currently, the community is not much involved in its management directly, but persuasive approaches are still taken to provide an understanding of the importance of the presence of LBG in this area. A number of development efforts have been made, one of which is to provide adequate facilities such as toilets, rest areas, parking lots and etc. Based on the Analysis of Operational Areas-Nature Tourism Attraction Object (AOA-TAO), the feasibility index of TAO from the LBG is as much as 71.86%. This score shows that the LBG TAO deserves to be developed comprehensively. Perception of tourists in relation to management and LBG TAO are: 9.16% of visitors reported that they were very satisfied, 25.15% of respondents reported that they were satisfied, 37.99% of respondents were quite satisfied, 17.56% of respondents were slightly dissatisfied, and 8.80% of respondents were not satisfied. While the people around the tourism object fully support the LBG TAO development activities. The community hopes that the management or manager will always socialize the progress of LBG.

The implications of this study are as follows: (i). Strategies for developing the management of the LBG Attraction can be carried out with several stages of activities such as sustainable planning, control, monitoring, and evaluation, as well as intensive activities. In the implementation of the plan, it is recommended to involve other parties such as the government, the private sector and the local community in terms of the availability of sanitation facilities such as toilets and trash bins, the condition of the road network to tourism objects, the availability of modes of transportation to tourism objects, the availability of accommodation facilities such as hotels and lodging. The regional government is expected to play a more important role in managing, developing, and preserving the LBG as a tourist attraction. (ii). Communities around the LBG continue to preserve and still maintain the tourism potential contained in the LBG attractions such as the beauty of natural attractions, the diversity of tourist attractions offered, the existence of distinctive regional art and cultural attractions. (iii). For further researchers, it needs more active communication and deeper interview with the manager of the LBG in order to get more accurate data such as hygiene and sanitation of local food and beverages, to empower in terms of making unique local souvenirs/souvenirs. (iv). Researching the management and marketing system in introducing the LBG to increase visitors, both local and foreign tourists.

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