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Education aspect of the community participation on developing geotourism Bakara Village

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Abstract. Tourism is one of the important sectors that can improve the economy of the community. One form of tourism that can fulfill the desires of tourists that benefit society and the environment, as well as the trigger of development and the local economy is Geotourism. Bakara is one of the leading tourist destinations in Humbang Hasundutan District. This phenomenon is the result of a Supervolcano eruption, from this eruption not only creating extraordinary natural scenery, cultural diversity, biodiversity and also communities that have local wisdom and live in harmony with nature. Geotourism has a focus on aspects of world heritage through education. This study aims to examine Education aspect of the community participation in developing Geotourism Bakara Village. This research uses a mixed method, combining the elements of Geotourism by direct observations, questionnaires distribution, and depth interviews with key respondents. Education aspect of the community participation on developing Geotourism Bakara Village was analyzed on indicators, namely interpretation of geosites, appreciation of cultural values and world heritage, knowledge, and understanding of Geosite, Educational activities, and Geosite Development. The result shows that the five elements of Education aspects have a positive respon from respondent but it must be improved to increase of tourism and also the economy in Bakara Humbahas District.

1. Introduction

Tourism is an important sector for a country, which can improve the economy of the community. Tourism is a very strategic sector because it can improve the economy and also the quality of life of the community [1].

The tourism industry can provide great benefits in economic and social aspects. That is why the tourism sector is important in the development of a region [2]. Bakara is an area located in the Lake Toba Region, which is one of the priority destinations in Jokowi's nawacita. Bakara is located in Geo area Sibandang, which is part of the Lake Toba Caldera Geopark which has tourism potential, which can improve the economy and quality of life of the people there. Bakara is one of the leading tourist destinations in Humbang Hasundutan Regency which has extraordinary natural phenomena. This phenomenon is the result of a volcanic eruption (supervolcano), the last eruption that occurred at 74,000 years ago that formed Lake Toba (Toba Caldera) [3]. The results of this eruption not only create extraordinary natural scenery, cultural diversity, biodiversity and also give birth to people who have local wisdom and live in harmony with their nature. Community participation is an important aspect of encouraging the tourism sector (UNWTO, 2004). The government must involve and cooperate with local communities, so that decision making aimed at tourism development is by the expectations of each



party [4]. Community involvement influences the development of tourism in an area [5]. Development of Geo-tourism in Bakara, cannot be separated from community involvement, which will have a positive impact on tourism, and will be felt by the community itself and the government [4]. Geotourism is one form of tourism that can meet the desires of tourists and benefit the community and the environment, as well as the triggers of local economic development [6]. Geotourism is also one way to develop the Lake Toba Geopark, and increasingly attracts tourist visits. Therefore it is necessary to develop Geotourism, especially in Bakara, in this study, the researchers involved the participation of the Bakara community. Geotourism based on community has four aspects, they are Education, economy, Promotion and Conservation [4] [7] [8] [6]. This study only focus in aspect of Education and aims to produce recommendations for aspects of community-based Geotourism education in Bakara.

2. Literatur research

Geotourism is a concept of developing tourist destinations that are often used lately due to the increased awareness of the public about the geological conditions of the earth, the increasing number of Geopark, and awareness of the role of Geotourism in conserving Earth's heritage [4]. [9] Defining geotourism literally as (i) 'geo' with respect to geology and geomorphology and natural resources of the landscape, by concentrating on appreciating the processes of natural resource formation, and (ii) 'tourism' which includes visits to geosites for the purpose recreation, involving curiosity, and appreciating and studying the places visited. The concept of Geotourism has the potential to become a tourist destination and optimize management of tourist destination, attraction, facilities and services and accessibility [10].

Developing Geotourism as a form of natural tourism that specifically focuses on Geology and landscape, and promote tourism with the theme of geodiversity conservation and understanding of geosciences through appreciation and learning of Geotourism based on geology and its focus on aspects (1) Sustainability, (2) Conservation, (3) Benefits for the community, and, (4) Appreciation of cultural values and world heritage through education and interpretation. The characteristics of geotourism are the geological focus (earth), educating the environment, and protecting the benefits of the local community [9]. In the Quebec agreement (2002), Geotourism is part of the principles of sustainable tourism and must also be environmentally sound. Geotourism has become a tourist destination structuring concept that is often used lately [11]. Caused by increasing public awareness of the geological conditions of the earth, an increasing number of parks, and knowledge of the role of geotourism in conserving the earth's heritage. The application of the successful concept of geotourism can be measured from (1) identification and promotion of its physical form, (2) the users' knowledge and understanding, and (3) their efforts in developing and disseminating communicative competent interpretation media [4]. Introducing Geotourism is one way to introduce Tourism as a marketing policy to develop Geosite (Gerner et al., 2009). Meanwhile, [6] mentioning the tourist needs of the Geotourism trend can be met with the following three strategies, namely interpretation on geosite, communication and marketing, and tourism product development. In [7] and [12] Stated that the development of Geotourism to be significant must pay attention to aspects of educational activities contained in the geosite, conservation of geosites, the existence of economic products produced by local communities there, and promotion to increase tourist visits. Based on a summary of the aspects that affect the development of Geotourism, the researcher concluded several dominant aspects, namely aspects of Education, Economic Aspects, Promotion Aspects, and Conservation Aspects. This research focus only Aspect Education of Geotourism, Education aspect of the community participation on developing Geotourism Bakara Village was analysed on indicators, namely interpretation of geosites, appreciation of cultural values and world heritage, knowledge, and understanding of Geosite, Educational activities, and Geosite Development.

3. Methods

3.1 Research Area

This research was conducted in Bakara, Baktiraja Subdistrict, Humbang Hasundutan District (Figure 1). There are various famous tourist attractions in Bakara, such as ; (a) Sisingamangaraja Palace, this area is intended for historical tourism, because it is the hometown of Sisingamangaraja, one of the famous kings of the Batak region. The historical evidence is still well maintained. Sisingamangaraja dynasty stood in Bakara + _ 1530 - 1907 led by Raja Sisingamangraja I - XII. The hereditary kingdom has a palace in Bakara. Inside the Palace, there are Tombs of Raja Sisingamangaraja X, Tomb of Raja Sisingamangaraja XI, Ruma Bolon, Ruma Parsaktian, Sopo Bolon, Bale Pasogit, Batu Si revealed. Raja Sisingamangaraja Palace was burnt by Tuanku Rao's forces in 1825 and Dutch troops in 1878 and was rebuilt by the government and the community since 1978.; (b) Bakara Scenery has functioned as Staging and Stop points, there are seats and pavilion which functions for tourists and residents, to see the views of Baktiraja District. Bakkara Scenery is also a lot of shady trees that make the area shady, and also the cool air.



Figure 1. Research Area

(c) Aek Satio-tio, at the location of the tourist attraction Aek Satio-tio, is an area intended for tourism, as a bathing place. Attractions Aek Satio-tio Located in Siunong-Unong Julu Village, Baktiraja District. Aek Satio-tio is a spring that is very clear and never dry. Visitors who come to this location are always amazed by the existence of this spring. In general, visitors take the time to drink the water directly or bathe in this location, and there are also those who pack it to take home.

(d) Aek Sipangolu happened when Raja Sisingamangaraja rested because his elephant was thirsty. Then Raja Sisingamangaraja Martonggo (prayed) to Mulajadi Nabolon (God Almighty) and on his instructions, he stuck his wand to the rock and springs appeared. Aek Sipangolu can cure various diseases so that it is called Aek Sipangolu, which means "Water of Life" and is visited by many people. The Aek Sipangolu area is a natural tourist attraction, which passes the road in the Bakara area. Hariara Tunghot, intended for the historical tourism object area, is located in Sinambela Village with the cultural heritage of Raja Sisingamangaraja. At present, Hariara Tungkot has fallen because of age. This object is a stick used and plugged in by Raja Sisingamangaraja and then grows into a tree. Physically this tree is indeed similar to a stick. Tree trunks have a unique towering height with some of their leaves turned upside down. In tourist attractions ; (e) Janji Waterfall, a tourist attraction intended for natural

attractions. This waterfall is in Marbun Village, Baktiraja District, right on the outskirts of Lake Toba. The clear water that comes out of the high hills is very crowded with tourists, especially during weekends or holidays. At this location, tourists enjoy a fresh splash of water falling from the rocks. It feels incomplete if you do not bathe in the flow of this waterfall. Freshwater from the shower pampers every visitor. (f) Tombak Sulu-sulu this area is intended for historical tourism, this tourist attraction is a historical tourist attraction, where the King of Batak, namely Raja Sisingamangaraja, hiding in this place from the pursuit of invaders, besides this attraction has a Cave, used by Raja Sisingamangaraja to escape elsewhere in the Lake Toba region. It is a weaving place for Boru Pasaribu, wife of King Bona ni Onan Sinambela. At this place, Boru Pasaribu received a revelation from Mulajadi Nabolon that he would conceive and give birth to a child who had supernatural powers and would later become the King of the Batak Land. When the child was born, the earth trembled so that it was given the name King Manguntal. King Manghantal was later crowned Raja Sisingamangaraja I.

3.2 Methode

The method used in this research is the mix method. This research uses a mixed method, combining the elements of Geotourism by direct observations, questionnaires distribution, and depth interviews with key respondents. Education aspect of the community participation on developing Geotourism Bakara Village was analyzed on indicators, namely interpretation of geosites, appreciation of cultural values and world heritage, knowledge, and understanding of Geosite, Educational activities, and Geosite Development.

4.Result and Discussion

The education aspect of the community participation on developing Geotourism Bakara Village was analysed on indicators, namely interpretation of geosites, appreciation of cultural values and world heritage, knowledge, and understanding of Geosite, Educational activities, and Geosite Development.

4.1 Interpretation of geosites

Educational Aspect, Community-based Geotourism Development has involved the community, where the percentage of respondents with an average score 4.11, this is evident from the activities of developing natural tourism and cultural tourism that has been carried out in Bakara. Appreciation of cultural values and world heritage through education and interpretation is beneficial to provide economic benefits for people who are in tourist locations, in addition to economic benefits, the development of Geosite also provides business opportunities for the community. Geosite development can also improve people's quality of life, empower local communities and realise the preservation of local wisdom. Appreciation of cultural values and world heritage through education and interpretation can improve people's quality of life, empower local communities and realise the preservation of local wisdom.

Table 1. Interpretation of Geosites Aspect

Interpretation of Geosites	Mean (Locals)
1. Development of Nature and Culture Tourism in Bakara, which is applied by the Government involving the Community?	4.11
2. Development of Nature and Culture Tourism in Bakara Providing Benefits for the community?	4.22

1= Strongly Disagree 2= Strongly agree

Geotourism development provides benefits for the community, where the average respondents give a score of 4.22. Geosite development has the goal of increasing environmental sustainability and sustainable environmental development. Appreciation of cultural values and world heritage through education and interpretation can also improve people's quality of life, empower local communities and

realize the preservation of local wisdom. One of the keys to the successful development of community-based tourism is the knowledge and openness of the community to manage their environment [13].



Figure 2. Geopark Seminar and Save Environment
(Source: medanbisnisdaily.com)

4.2 Appreciation of cultural values and world heritage, knowledge

Appreciation of cultural values and world heritage through education and interpretation is beneficial to provide economic benefits for people who are in tourist locations, in addition to economic benefits, the development of Geosite also provides business opportunities for the community. Geosite development can also improve people's quality of life, empower local communities and realize the preservation of local wisdom. Appreciation of cultural values and world heritage through education and interpretation can improve people's quality of life, empower local communities and realise the preservation of local wisdom — Cultural Value Enhancement Activities in Bakara Involve Communities where the average respondent's give scores 4.05.

Table 2. Appreciation of cultural values and world heritage, knowledge Aspect

Appreciation of cultural values and world heritage, knowledge	Mean (Locals)
1. Cultural Value Enhancement Activities in Bakara Engaging the community?	4.05
2. The activities of increasing cultural values in Bakara provide benefits for the community?	4.10
3. Activities for Increasing Cultural Values in Bakara improve the quality of life of the community?	4.10

1= Strongly Disagree 2= Strongly agree

Cultural Value Improvement activities in Bakara have been carried out by the community and also the Government, which work together with each other, in Bakara, there has been a Homestay development that aims to preserve the Culture there, and also provide benefits to the community and also involve local communities. Cultural Value Enhancement activities in Bakara provide benefits for the community where the average community gives a value of 4.10. The activities of increasing cultural values in Bakara have also been carried out by the Government and the Community. Geosite development has the goal of increasing environmental sustainability and sustainable environmental development. Appreciation of cultural values and world heritage through education and interpretation can also improve people's quality of life, empower local communities and realize the preservation of local wisdom. One of the keys to the successful development of community-based tourism is the knowledge and openness of the community to manage their environment [13].

Cultural Value Enhancement Activities in Bakara improve the Quality of Life of the Community, where the average community gives a value of 4.10. The cultural values activities in Bakara have been carried out by the community and also the Government, which collaborates with one another, in Bakara, there has been a Homestay development that aims to preserve the culture there, and also to improve the economy of the community, also to improve the quality of life of the community.



Figure 3. Homestay Bakara

4.3 Understanding of geosites

Appreciation of cultural values and world heritage through education and interpretation is beneficial to provide economic benefits for people who are in tourist locations, in addition to economic benefits, the development of Geosite also provides business opportunities for the community. Geosite development can also improve people's quality of life, empower local communities and realize the preservation of local wisdom. Appreciation of cultural values and world heritage through education and interpretation can improve people's quality of life, empower local communities and realize the preservation of local wisdom.

Table 3. Understanding of Geosites

Educational Activities	Mean (Locals)
1. Activity Understanding of natural attractions and cultural tourism in Bakara known by the public?	4.15

1= Strongly Disagree 2= Strongly agree

Understanding activities on natural and cultural tourism objects in Bakara are known by the community, where the average respondents give a score of 4.15. An understanding of tourism objects in Bakara will provide understanding for the community and will increase community knowledge in managing tourism in Bakara, which can provide direct benefits to the local community. Geosite development has the goal of enhancing environmental sustainability and sustainable environmental development. Appreciation of cultural values and world heritage through education and interpretation can also improve people's quality of life, empower local communities and realize the preservation of local wisdom. One of the keys to the successful development of community-based tourism is the knowledge and openness of the community to manage their environment [13].

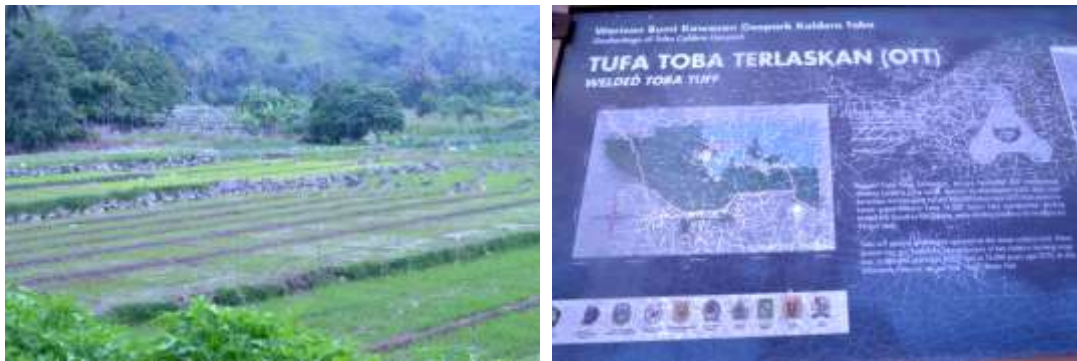


Figure 4. Signboard Geopark

4.4 Educational activities

Appreciation of cultural values and world heritage through education and interpretation is beneficial to provide economic benefits for people who are in tourist locations, in addition to economic benefits, the development of Geosite also provides business opportunities for the community. Geosite development can also improve people's quality of life, empower local communities and realize the preservation of local wisdom. Appreciation of cultural values and world heritage through education and interpretation can improve people's quality of life, empower local communities and realize the preservation of local wisdom. Geosite development has the goal of increasing environmental sustainability and sustainable environmental development. Appreciation of cultural values and world heritage through education and interpretation can also improve people's quality of life, empower local communities and realize the preservation of local wisdom.

Table 4. Educational Activities

Educational Activities	Mean (Locals)
1. Educational activities for nature and culture tourism in Bakara are carried out for the community?	4.06
2. Educational activities on Nature and Culture tourism benefit the community?	4.16

1= Strongly Disagree 2= Strongly agree

One of the keys to the successful development of community-based tourism is the knowledge and openness of the community to manage their environment [13]. Educational activities on Nature and Culture tourism in Bakara are carried out for Communities where the average respondents give scores 4.06. Educational activities carried out by the Community and Government synergise with each other by making the Geopark Go To school program for students understand the understanding of Geopark, and can be involved in understanding the importance of preserving Geopark, especially in Bakara Humbang Hasundutan. The Natural and Cultural tourism education activities in Bakara provide benefits for the community, where the average community gives a value of 4.16. Natural and cultural education activities will increase people's knowledge of managing tourism in Bakara, which can provide direct benefits to the local community.



Figure 5. Educational Geopark Activities
(Source: danautoba.org)

4.5 Geosites development

Appreciation of cultural values and world heritage through education and interpretation is beneficial to provide economic benefits for people who are in tourist locations, in addition to economic benefits, the development of Geosite also provides business opportunities for the community. Geosite development can also improve people's quality of life, empower local communities and realize the preservation of local wisdom.

Table 5. Geosites Development Aspect

Geosites Development	Mean (Locals)
1. Development of Nature and Culture Tourism in Bakara improve the Quality of Life for Bakara Communities?	4.09
2. Development of Natural and Cultural Tourism in Bakara Improving Environmental Sustainability?	4.13

1= Strongly Disagree 2= Strongly agree



Figure 6. Geopark Signboard

Geosite development has the goal of increasing environmental sustainability and sustainable environmental development. Appreciation of cultural values and world heritage through education and interpretation can also improve people's quality of life, empower local communities and realize the preservation of local wisdom. One of the keys to the successful development of community-based tourism is the knowledge and openness of the community to manage their environment [13]. With the development of Geotourism, it can increase tourism and provide benefits to the community. The development of Geotourism improves the quality of life of the Bakara community, where the value is 4.09. In addition to providing income for the community, the development of Geotourism is expected

to improve the quality of life of the people there. Development of Nature and Culture Tourism in Bakara increases Environmental Sustainability, where the average community gives a value of 4.13. The development of natural and cultural tourism in Bakara has been carried out through the construction of homestay, which aims to increase tourism and also preserve the culture and environment in Bakara.

5. Conclusion

Bakara is one of the Natural and Cultural tourist attractions in Baktiraja District, Humbang Hasundutan Regency. Geotourism Bakara Village was analysed on indicators, namely interpretation of geosites, appreciation of cultural values and world heritage, knowledge, and understanding of Geosite, Educational activities, and Geosite Development. In general the five aspects have a positive assessment from the respondents, but there needs to be an increase in aspect interpretation of geosites, by making routine geopark education activities for the community. In aspect of appreciation of cultural values and world heritage the community and the government must work together to preserve the culture and historical heritage in Bakara, so that they can educate tourists and the community. In the aspects of Educational activities it is necessary to add a signboard geopark, to make it more accessible to tourists and the public. Educational Activities in Bakara already done, but it is hoped that the community and the government will routinely and in turn carry out activities and efforts to preserve tourist destinations in Bakara. Geosites Development has been assessed both by the community and tourists, it's just that it is expected that all stakeholders can jointly guard it.

The arrangement of Elements of Aspect Education aspect of the community participation in developing Geotourism Bakara Village is expected to support the increase of tourism and also the economy in Bakara Humbahas District. For further research, the researcher recommends investigating another aspects of Geotourism Based on Community Participation on Humbahas District. The researchers also recommend more research on the concept of arranging Geotourism in other locations.

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