

Conservation Aspects on Developing Geotourism for Young Tourists During the Covid-19 Pandemic in Silalahi Village

Nurlisa Ginting¹²³, Nurinayat Vinky Rahman¹²³, Antonella Trombadore⁴

¹ Department of Architecture, Faculty of Engineering, Universitas Sumatera Utara, Medan, Indonesia, ² Lake Toba & Sustainable Tourism Working Group, Universitas Sumatera Utara, Medan, Indonesia, ³ Monitoring Centre of Sustainable Tourism Observatory (MCSTO), Universitas Sumatera Utara, Medan, Indonesia, ⁴ DiDA Dipartimento di Architettura, University of Florence, Florence, Italy

Email of All Authors: nurlisa@usu.ac.id, n.vinky@usu.ac.id, antonella.trombadore@unifi.it
Tel of 1st Author: +62811608102

Abstract

Sustainable tourism is a tourism concept that provides sustainability for tourist destinations in the future, where geo-tourism is part of it. Geotourism development in conservation is an action to protect the geo-site from damage. The research area is located in Silalahi Village on the coast of Toba Caldera, rich in geodiversity, biodiversity, and historical-cultural suitable for young visitors. The factors of this study, i.e., Nature Conservation Activities/Geology and Cultural Conservation Activities, were investigated using the mixed method. This study shows geo-tourism development based on the conservation aspect for youth tourists during the COVID-19 pandemic in Silalahi Village.

Keywords: Geotourism; conservation aspects; young tourists; COVID-19

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1.0 Introduction

Tourism is one of the drivers of economic development in Indonesia. The wealth of natural and cultural resources is the main attraction in tourism (Astuti, 2018). However, the spread of COVID-19 has an impact on the tourism sector. Therefore, tourist destinations must consistently attract tourists by implementing innovations through digitalisation (UNWTO, 2020).

The concept of sustainable tourism challenges the times because it continues to create a sustainable tourist destination for the present or the future that impacts the environment, society, culture, and economy (Menparekraf/Baparekraf RI, 2021). Geotourism is part of a form of sustainable tourism where the main focus is through natural geological experiences through understanding the environment as well as appreciation, conservation, and attention to the preservation of local wisdom (Prykhodchenko, 2017; Dowling, 2014).

Development of geo-tourism in conservation to protect geo-sites from damage by implementing protection and management measures. Tourism environmental conditions can be damaged if used excessively, so that protection or conservation is needed so that tourism remains sustainable in the future (Hermawan & Brahmanto, 2017). Conservation is not only carried out by tourism managers but also involves young tourists.

The research area is located in Silalahi Village, rich in biodiversity, biodiversity, and historical-cultural diversity. Silalahi Village is one of the villages located on the coast of Caldera Toba with extraordinary natural beauty. Silalahi Village provides many tourism

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DOI:

products that are suitable for young visitors. Thus, Silalahi Village has become a favourite destination for young tourists and a leading destination in Dairi Regency. However, the development of geo-tourism based on conservation aspects during the pandemic in Silalahi village is still minimal. Therefore, this study aims to examine the effect of conservation-based geotourism for young tourists during the COVID-19 pandemic in Silalahi Village.

2.0 Literature Review

2.1 Geotourism

Geological, biological, and cultural diversity is an essential asset in developing sustainable tourism, especially geo-tourism, which has the main goal in natural areas, namely geological and landscape aspects (Wulung et al., 2021; Dewar, 2011). Geotourism is the provision of services and interpretations to obtain information about the geology and geomorphology of a tourist site (Kubalíková, 2019; Hose, 1995). Geotourism can fulfil the wishes of tourists. Provide a positive impact on the environment and local communities in developing the economy in the area (Ginting et al., 2021).

Geotourism is a concept that is present in contemporary tourism to create a fun and meaningful travel experience. Geotourism has five basic principles in its development, namely: (1) geo-heritage; (2) geo-conservation/sustainability; (3) geo-interpretation/education; (4) benefiting local communities; (5) providing satisfaction to tourists (Herrera-Franco et al., 2020). Geotourism encourages a sense of care for the perpetrators of its activities so that they care to want to participate and protect, conserve biodiversity and geo heritage, namely "geographical conservation" (Sadry, 2020).

2.2 Conservation

Conservation aspects play an essential role in the development of geotourism (Ginting et al., 2020). Conservation is an activity to maintain, protect, and manage a place so that future generations can still enjoy it. Conservation consists of environmental preservation and cultural preservation. Environmental conservation is a method/process of protecting certain areas from damage and pollution (Runa et al., 2019). Meanwhile, efforts to preserve the culture of cultural/artefact preservation and social preservation. However, the two do not differ in the purpose of their preservation (Runa et al., 2020; Appleyard, 1979). Cultural conservation consists of two interrelated dimensions. First, the backward dimension is an effort to protect and preserve local wisdom found in the community. The second is the future dimension, which is to maintain the culture so that it still exists (Supriono, 2020).

The phenomenon of the COVID-19 pandemic makes activities stop instantly and becomes an opportunity for natural ecosystems to rest after intensive use for tourism (Hakim, 2020). The decline in tourist visits due to social distancing rules has led to a reduction in waste generation, and site maintenance can be improved during this pandemic (Zambrano-Monserrate, 2020).

The development of conservation-based geo-tourism for young tourists is one way to preserve nature and culture. Where there are young tourists who are aware of the importance of conservation. In addition, young tourists have the will and will carry out conservation if they are informed in the right and correct way (Han et al., 2017).

Indicators that include environmental conservation are water and waste management in tourist destinations, environmental conservation activities involving young tourists, pollution caused by young tourists, and the intensity of facilities and infrastructure in tourist destinations. Development and maintenance of facilities in tourist areas such as hotels, restaurants, resorts and natural or cultural tourism areas (Kariminia et al., 2018). Indicators that include cultural conservation are cultural activities involving young tourists, the positive and negative influence of young tourists on the local community's culture, and how to protect local culture by involving young tourists (Table 1).

Table 1. Aspects of Conservation

Factors	Indicator	COVID-19 elements
Environmental conservation activities	Water and waste management in tourist destinations	
	Environmental conservation activities involving young tourists	
	Pollution caused by young tourists	Digital transformation
	The intensity of facilities and infrastructure in tourist destinations	Cleanliness Health Safety Environment Sustainability
Cultural conservation activities	Cultural activities involving young tourists	
	The positive and negative influence of young tourists on the culture of the local community	

(Source: Author)

3.0 Methodology

3.1 Research Area

The location of the research area is in Silalahi Village, Silahisabungan District, Dairi Regency, North Sumatra Province. This tourist area is rich in biodiversity, history and culture, such as the Tomb of Raja Silahisabungan, Rohiana Beach Public Baths, Campground, and Silalahi Beach. Various tourist attractions, both natural and cultural tourism, attract young tourists to come.



Fig. 1. Research Area
(Source: Author)

3.2 Methods

The variables of this study, i.e., Nature Conservation Activities/Geology and Cultural Conservation Activities, were investigated using the mixed method. This study combines qualitative and quantitative methods through field observations, in-depth interviews with seven stakeholders, and the distribution of 100 questionnaires to collect the perception of the youth tourist.

Direct observations were carried out to obtain physical data of the study area in photographs of architectural styles, uses, cultures, activities and others. In-depth interviews with key informants, namely the local government in the study area, institutions, academics, and the hotel. The questionnaire was distributed through social media, namely Instagram, WhatsApp, etc. in the form of a google form. The distribution of the questionnaires was carried out in a structured manner with closed questions with a 5-point scale ranging from disagree (1) to strongly agree (5) for the conservation aspect of geo-tourism. The factors of the conservation aspect are divided into two, namely geological/nature conservation activities and cultural conservation.

4.0 Findings

4.1 Respondents

This study involved 100 respondents of young tourists who visited Silalahi village during the new normal period. The results showed that the young tourist respondents had an average age range of 20-24 years by 61%, then ages 25-29 years by 27% and the smallest with an age range of 15-19 years by 12%. The majority of respondents last education was Bachelor S1/Diploma (56%), High School/Equivalent (42%), and Masters S2 (2%). While the majority of the work is Student/College Student (45%), Private Employee (17%), Entrepreneur (15%), Employee/Labour (11%), Not Working (10%), and Civil Servant (2%). Most of the tourist objects visited by respondents were Silalahi Beach (42%), Paropo Campground (37%), Silalahi Clan Monument and Cemetery (14%), and Rohiana Beach Public Baths (7%). Differences in age range, education, and occupation will produce diverse mindsets that affect how people take action (Ginting et al., 2020).

4.2 Conservation Aspect

Paropo Campground, Silalahi Clan Monument and Cemetery, Silalahi Beach, Rohiana Beach Public Baths are geotourism sites that represent tourism in Silalahi village. The data results show the response of young tourists to geotourism in Silalahi village during the COVID-19 pandemic from environmental and cultural conservation activities shows an average value of more than 3.

In the aspect of environmental conservation, the questions that get the highest average score based on Table 2 are Q4 "I participate in maintaining the environment in terms of cleanliness during the pandemic" (4.33), Q5 "When I implement health protocols, I participate in providing a sense of security to other young tourists" (4.42), Q8 "I feel worried when I'm around other young tourists who don't follow health protocols" (4.47).

Based on this, it can be concluded that young tourists maintain the cleanliness of the environment and facilities in geotourism areas during the pandemic. Young tourists agree that implementing health protocols makes them feel safe and comfortable while travelling. But unfortunately, this is not in line with its implementation in the field by young tourists when travelling, as shown in Table 2 Q7 with a score of 2.27 "When I'm at a geotourism location I don't pay attention to health protocols".

Table 2. Environmental Conservation Activities Aspects of Geotourism with COVID-19 Elements

Factors	Statements	Paropo Campground	Silalahi Clan Monument and Cemetery	Silalahi Beach	Rohiana Beach Public Baths	Mean	
Environmental conservation activities	Q1	I can quickly get information about water and waste management in tourist destinations	3.62	2.85	3.04	3.28	3.19
	Q2	I feel safe travelling during the Covid-19 pandemic because of the excellent water and waste management in geotourism destinations	3.64	3.21	3.35	2.85	3.26
	Q3	I share photos or videos on my social media accounts about the importance of environmental conservation activities while in geotourism locations	3.89	3.5	3.69	3.85	3.73
	Q4	I participate in maintaining the environment in terms of cleanliness during the pandemic	4.27	4.71	4.21	4.14	4.33
	Q5	When I implement health protocols, I participate in providing a sense of security to other young tourists	4.27	4.57	4.30	4.57	4.42
	Q6	When sharing content on social media, I ignore the state of my surroundings	3.29	2.71	2.71	1.85	2.64
	Q7	When I'm at a geotourism location, I ignore health protocols	3.05	1.92	2.54	1.57	2.27
	Q8	I feel worried when I'm around other young tourists who don't follow health protocols	4.40	4.64	4	4.85	4.47
	Q9	I can get access to information about existing facilities and infrastructure in geotourism destinations	3.91	3.57	3.38	3.42	3.57
	Q10	I am involved in maintaining the cleanliness of the facility when I am in a geotourism destination	4.21	4.21	4.16	4.14	4.18
	Q11	Other young tourists and I participate in maintaining facilities at tourist destinations so that we give each other a sense of security while travelling during a pandemic	4.13	4.21	4.09	4.28	4.17

Value Format:	Mean	3.88	3.64	3.59	3.53	3.66
1 = strongly disagree						
5 = strongly agree						

(Source: Author)

In the aspect of cultural conservation activities, the questions that get the highest score based on Table 3 are Q13 "I apply health protocols when carrying out cultural conservation activities at geotourism locations" (4.20), Q14 "When I apply the health protocol, I also provide a sense of security to other young tourists in carrying out cultural conservation activities at geotourism locations" (4.29), Q19 "My participation in giving a sense of security to other visitors, i.e. by complying with health protocols when in cultural activities" (4.30). The data shows that young tourists play a role in cultural conservation activities and implement health protocols.

Table 3. Cultural Conservation Activities Aspects of Geotourism with COVID-19 Elements

Factors	Statements	Paropo Campground	Silalahi Clan Monument and Cemetery	Silalahi Beach	Rohiana Beach Public Baths	Mean	
Cultural conservation activities	Q12	There are cultural activities broadcast online involving tourists	3.72	3.85	3.38	4.14	3.77
	Q13	I apply health protocols when carrying out cultural conservation activities at geotourism locations	4.24	4.21	4.09	4.28	4.20
	Q14	When I apply the health protocol, I also provide a sense of security to other young tourists in carrying out cultural conservation activities at geotourism locations	4.29	4.57	4.16	4.14	4.29
	Q15	I see my arrival or other young tourists have an effect on the cleanliness of tourist destinations during the pandemic	4.32	4.07	4	4.14	4.13
	Q16	I heard the local people's worried about the arrival of young tourists like me who visited during the pandemic	3.51	3.07	2.92	3.14	3.16
	Q17	I contribute to the role of cultural conservation in the geotourism destinations when I visit by sharing information through social media accounts about the cultural activities I do	4.05	3.57	3.59	3.28	3.62
	Q18	I participate in carrying out cultural activities by implementing health protocols	4.02	4.07	3.95	4.14	4.04
	Q19	My participation in giving a sense of security to other visitors, i.e. by complying with health protocols when in cultural activities	4.40	4.50	4.16	4.14	4.30
		Mean	4.07	3.99	3.78	3.92	3.94

Value Format:
1 = strongly disagree
5 = strongly agree

(Source: Author)

5.0 Discussion

5.1 Environmental Conservation Activities

Water and waste management in tourist destinations

The availability of information regarding water and waste management in Silalahi is quite good (3.19). The tourist location with the lowest rating from young tourists is the Tomb of Raja Silahisabungan (2.85). However, Silalahi Village does not yet have a good waste disposal

system. "Domestic waste disposal is directly channelled into Lake Toba without any prior filtering (Fig. 2) (Silalahi Village Beach Tourism Manager, personal communication, October 2021)." Pollution due to domestic waste in Lake Toba, especially the Silalahi Village area, has reached the status of moderately polluted water quality. It is feared that if there is no good sewage treatment system, the water quality status of Lake Toba will be heavily polluted (Tirtanadi, 2016).



Fig. 2. Domestic waste
(Source: Author)

Water pollution does not only come from domestic waste. However, floating net cages on the shores of the lake are also the cause (Fig. 3). It will pollute the water and the air because the smell of waste will produce a bothersome smell. The reason tourists want to come to natural attractions is to get the natural quality that is far from pollution. If this continues, it will affect the level of tourist visits, both local and foreign.



Fig. 3. Floating Net Cages
(Source: Author)

Environmental conservation activities involving young tourists

The awareness of young tourists about the importance of environmental conservation activities while at the geo-tourism location and then sharing these activities on their social media is quite good, with an average value from each study of tourist attractions (3.73). The participation of young tourists in maintaining a clean environment during the pandemic shows a perfect number (4.33).

Based on the results of interviews, environmental conservation activities have been carried out in Silalahi Village. "Nature lovers community activists have carried out environmental conservation activities, both students and tourists, namely planting trees and cleaning up trash around the lake or in the Silalahi Village environment. Residents in each village also carry out cooperation activities to clean the environment (Silalahi III village head staff, personal communication, October 2021)." The Dairi Tourism Office also agrees that conservation has been carried out: "We have twice carried out conservation activities by involving the Kelompok Sadar Wisata (Pokdarwis) to clean the beaches Silalahi I, II, and III (Dairi Tourism Office, personal communication, October 2021)."

Pollution caused by young tourists

The results of the questionnaire were not following the conditions in the field. When the researchers conducted observations, it was found that there was still garbage scattered in several research locations, such as the Paropo Campground (Fig. 4). Even though the tour manager has provided a trash can, it has shown that young tourists are still less aware of maintaining the cleanliness of tourist destinations.



Fig. 4. Pile of Garbage at Paropo Campground
(Source: Author)

The intensity of facilities and infrastructure in tourist destinations

According to young tourists, the ease of getting access to information about the availability of facilities and infrastructure in geotourism destinations is quite good (3,57). Young tourists participate in maintaining the cleanliness of the facilities very well (4.18). The management has also provided facilities in tourist destinations such as toilets and rubbish bins (Fig. 5).



(a)



(b)

Fig. 5. (a) Toilets; (b) Rubbish Bin.
(Source: Author)

Around the geotourism destinations, there are also places to eat for Muslims and Musholla (Fig. 6). Considering this geotourism area, the majority of the people are Christian.



Fig. 6. Musholla
(Source: Author)

Based on field observations, the provision of its sink is only available at Paropo Campground, while other tourist attractions do not yet exist (Fig. 7). Whereas one of the requirements in implementing health protocols in tourist attractions is the availability of a sink for washing hands. Even the hotel itself does not check the body temperature of tourists who come. The results of interviews with resource persons, the local government has provided socialisation about applying health protocols in tourist attractions. Unfortunately, there is no assistance fund provided to the managers of tourist destinations. They provide their sink so that not all tourist destinations apply health protocols.

"The provision of sinks during the pandemic exists. There is no aid fund from the government, but the tour manager makes his own (Tourism Manager in Silalahi Village, personal communication, October 2021)."



Fig. 7. Sink
(Source: Author)

5.2 Cultural Conservation Activities

Based on the questionnaire results, according to young tourists, there are cultural activities broadcast online that involve tourists (3,77). When carrying out cultural preservation activities at geotourism locations, young tourists apply health protocols (4.20). Cultural activities are still preserved in Silalahi Village, marked by the presence of a dance studio. In addition, on big days at the Silalahi Clan Monument and Cemetery, dance performances are held (Fig. 8). Silalahi Clan Monument and Cemetery have also been designated as a cultural heritage building by the Culture & Tourism Office of North Sumatra Province. Cultural heritage buildings are an asset that must be preserved because they are valuable objects from the past. They are contained in cultural artefacts, natural resources, art, architecture, history, economy, and socio-cultural values. Therefore, they have an essential role in influencing social and economic dynamics, both developed and developing countries (Umar, 2018).



(a)



(b)

Fig. 8. (a) Silalahi Clan Monument and Cemetery; (b) Performance Dance Venue.

(Source: Author)

The contribution of young tourists to the role of cultural preservation in geotourism destinations when visiting Silalahi Village, namely by sharing information through social media accounts about the cultural activities they do, shows a fairly good score (3.62). However, young tourists also have a negative impact on the cleanliness of tourist destination locations during the pandemic, with an average score (4.13).

6.0 Conclusion & Recommendations

This study found that the Silalahi village area can be developed into geotourism, especially in the aspect of environmental and cultural preservation. However, many things still need to be improved so that its development can be maximised. Environmental conservation carried out in Silalahi Village received a fairly good average score from young tourists. However, the results of observations in the field indicate that the facts are not good because the management of domestic waste by the community is directly channelled to Lake Toba. This can have a negative impact on the environment. In addition, the awareness of young tourists is also still lacking because there is still garbage scattered around the tourist location area. Young tourists also do not apply health protocols when travelling in nature during the COVID-19 pandemic. Meanwhile, cultural preservation also got a pretty good average score. Because the purpose of young tourists when they come to Silalahi Village is to witness its cultural activities and spread these cultural activities through social media so as to make other young tourists interested in coming to Silalahi Village. Young tourists also apply health protocols during cultural tours. Unfortunately, cultural activities such as dance performances are only available on big days. To raise awareness of the importance of nature and cultural conservation for young tourists and local people, it is recommended to provide training on how to properly manage water and waste, carry out nature and cultural conservation activities regularly by involving young tourists, impose sanctions on people who pollute the environment and destroying cultural objects, as well as providing training on the importance of implementing health protocols in the era of the COVID-19 pandemic.

Acknowledgement

The authors wish to thank Universitas Sumatera Utara for their valuable support of this study. The support is under the research grant TALENTA USU 2021 Contract Number:481/UN5.2.3.1/PPM/SPP-TALENTA USU/2021.

Paper Contribution to Related Field of Study

This research contributes to urban planning and tourism to develop heritage tourism by implementing conservation aspects on developing geotourism for young tourists during the COVID-19 pandemic in Silalahi Village.

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