

Study of Architecture Aspect of Creative Economy in Sustainable Tourism at Simanindo

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Abstract. The architecture aspect in the creative economy is to provide a unique environment that involves art, emotion, activity, and culture. The architecture aspect is helping the development of sustainable tourism. Because of that, it is crucial to study the architecture aspect of sustainable tourism. Simanindo District is one of the districts in the center of Toba Lake and has many potentials to develop its tourism. The research has aims to identify the architecture in a tourism and local community opinions. The research methods used are qualitative and quantitative or usually called the mixed method. The data collections are collected from 100 questionnaires, interviews with four interviewees, and observation, and then the result will be analyzed and explained using analyze descriptive method. The final result from this research is an assessment from local communities against the culinary aspect in three aspects in sustainable tourism, economy aspect, socio-culture aspect, and environmental aspect. The conclusions are opinions and perceptions from the local community against architecture in sustainable tourism at Simanindo.

Keywords: architecture, creative economy, sustainable tourism

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1 Introduction

In this globalization era, tourism is one of the essential things in the Indonesian economy. Tourism quality can be reached by creating an innovative tourism product and being different or unique from the other regions [1]. From this, the creative economy finds its existence and starts developing. Sustainable tourism will grow better if supported by the creative economy. The creative economy consists of many subsectors. Architecture is one of those [2]. Architecture can attract tourist destinations, and even tourism involves a unique building that is trending in some regions. This architecture aspect is expected to support sustainable tourism in an area.

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Simanindo is located in Samosir Regency. Simanindo has many tourist destinations that can still develop more. With this creative economy, this region will grow better. With this support by the creative economy, tourism in Simanindo will create, not just in their area, but also make a better life for the local community [3].

2. Architecture and Sustainable Tourism

Architecture can be an identity of a region. Architecture in a creative economy provides support facilities and shows the culture and identity of an area [4]. Architecture in the creative economy can be a heritage building and an open space [5]. Heritage buildings and open spaces contribute to a tourism destination's economic, socio-culture, and environment [6].

Sustainable tourism is the tourism development of an area considering the economy, socio-culture, environment, accommodation for tourist needs, and the local communities in the region [7], [8], [9], [10]. Based on the sources, sustainable tourism has three essential aspects. They are economic aspect, socio-culture aspect, and environmental aspect.

The economic aspect of sustainable tourism can be opening up job opportunities and stable income [7], [11], [12], [13], [14]. Second, the socio-culture aspect can be the preservation of cultural heritage and awareness of local communities towards their culture [7], [11], [12], [13]. Third, the environmental aspect of sustainable tourism is optimizing the use of natural resources [7], [11], [12], [13] (Table 1).

Table 1 Aspects of Sustainable Tourism

Aspect	Indicator
Economy	Opening more job opportunities
	Stable income
Socio-culture	Preservation of cultural heritage
	Increasing awareness of local communities towards their culture
Environment	Optimizing the use of natural resources (Using it efficiently)

3. Methodology

This research aims to identify the architecture aspect of the creative economy in sustainable tourism at Simanindo. This research using qualitative and quantitative methods, or called mixed methods [15]. The qualitative method is done by observing the location and interview four interviewees. The quantitative method is done by spreading questionnaires to 100 respondents who live around tourism destinations, aged 18 and over, and occupation. The result of this data will be analyzed using analyze descriptive method. This methodology refers to similar resources that have been done before by Rakib (2017) and Wirakusuma (2014).

This research is about the architecture aspect based on the indicators of the sustainable tourism aspects. The parameters can be made and used as statements in the questionnaire and questions in the interview (Table 2).

Table 2 Variables, indicators, and parameters

Variables		Indicators	Parameters
Architecture	Sustainable Tourism		
Heritage Buildings	Economy	Opening more job opportunities	Heritage building can open more job opportunities
		Stable income	Heritage building can make income more stable
	Socio-culture	Preserving the cultural heritage	Heritage buildings can preserve the cultural heritage
		Increasing awareness of local communities towards their culture	Heritage buildings can increase awareness of local communities towards their culture
	Environment	Optimizing the use of natural resources	Heritage buildings use natural resources efficiently
Open space	Economy	Opening more job opportunities	Open space can open more job opportunities
		Stable income	Open space can make income more stable
	Socio-culture	Preserving the cultural heritage	Open space as an expression place of cultural heritage
Variables		Indicators	Parameters
Architecture	Sustainable Tourism		
		Increasing awareness of local communities towards their culture	Open space can increase awareness of local communities towards their culture
	Environment	Optimizing the use of natural resources	Open space uses natural resources efficiently

The researcher chooses Simanindo to be the location of this research because Simanindo is one of the tourism that is still improving or having the potential to improve more. The researcher will found about culinary in tourism at Simanindo. This research focusing on four tourism destinations, they are Batu Kursi Parsidangan Siallagan, Museum Huta Bolon, Museum Tomok, and Tuktuk Siadong Village (Figure 1).

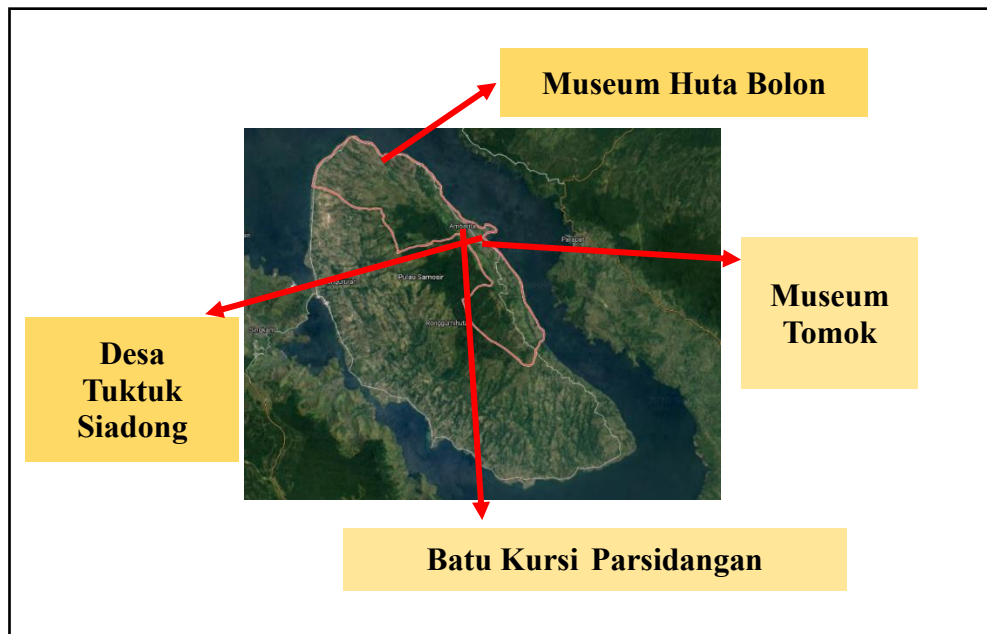


Figure 1 Research Sites

4. Analysis and Interpretations

The researcher has observed directly to the research sites from Sunday (December, 13th 2020) until Tuesday (December, 15th 2020). There is 100 questionnaire distributed in this four areas. Each area has 25 questionnaires distributed. Most of the respondents are men (56%), and the rest is women (44%). The length of stay in the area for five years and above is 56 respondents (56%) and for the local stay in the area for under five years is 44 respondents (44%). The age category has four categories, and the most is the 25-49 age group (47%), followed by the 18-24 age group (37%), the 50-64 age group (15%), and the 65 above age group (1%). The occupation has three categories, the most category is other than government employees and remote employees (39%), followed by local works as government employees (37%), and the rest is private employees (24%).

The interviews will be conducted with four interviewees. The four interviewees are all women. The first is Mrs. J.S Saragih, 26 years old, who works as a private employee. Second is Mrs. Sonya S.P, 28 years old, a resident. The third is Mrs. Melyscha S., 22 years old, who works as a seller and has her shop. The last is Mrs. Evanglish, 32 years old, a resident.

Architecture in the creative economy supports a public space such as an image of a region and builds the identity of the region [16]. Each traditional house is different, making the conventional building in each area unique and has its particular characteristics. This traditional house becomes an attraction for tourists because of its uniqueness and full of philosophy. Other than Building, an open space can support the development of sustainable tourism. Open space can be a good place that has many functions.

4.1 Architecture in Economy Aspect

Architecture has many activities that can boost the economy of the residents, such as visit the building heritage. From this, residents have an additional income to make their life much better [17].

The residents agree (3,65) that a heritage building helps sustainable tourism in the economic aspect become much better (Table 3). The residents agree that heritage buildings can open more job opportunities (3,67), and heritage buildings can make income more stable (3,63).

Based on the observation, many heritage buildings use as museums (Figure 2), hotels, or restaurants. This Building can open more job opportunities. These new functions can be new income sources and increasing resident's life quality. Many heritage building in this area shows that heritage building can support the resident's life, especially in the economic aspect.

Table 3 Questionnaire result about heritage building in the economy aspect

Statement	Batu Kursi	Museum Simanindo	Museum Tomok	Tuktuk Siadong	Mean
Heritage building can open more job opportunities	4,08	3,48	3,6	3,52	3,67
Heritage building can make income more stable	4,16	3,32	3,48	3,56	3,63
				Mean	3,65

The residents very agree (4,22) that open space can open more job opportunities. Otherwise, to make income more stable, residents agree (4,17) about this statement. Based on Table 4, residents agree (4,19) that open space can support sustainable tourism in the economic aspect.

Based on observation, open space has many functions because open space is multipurpose and used as supporting facilities. It can be green space or a space for an event. This creates more job opportunities for the residents.

Table 4 Questionnaire result about open space in the economy aspect

Statement	Batu Kursi	Museum Simanindo	Museum Tomok	Tuktuk Siadong	Mean
Open space can open more jobs opportunities	4,16	4,28	4	4,44	4,22
Open space can make income more stable	3,68	4	4,36	4,64	4,17
				Mean	4,19

Based on the interview, the heritage building and open space give additional income to local communities because the heritage building is used as a tourism attraction and accommodation facilities. Local communities work together to manage this and create a new job opportunity to manage and operate this Building.

Based on the result, the residents agreed that architecture in economic aspects could support sustainable tourism at Simanindo. The residents decided that architecture could open more job opportunities and make income more stable. This state can be proved by residents who have jobs like a tour guide in the conventional house, an event organizer, a traditional show, or an employee if the Building is used as a museum, hotel, or restaurant. These kinds of jobs help their income be more stable.

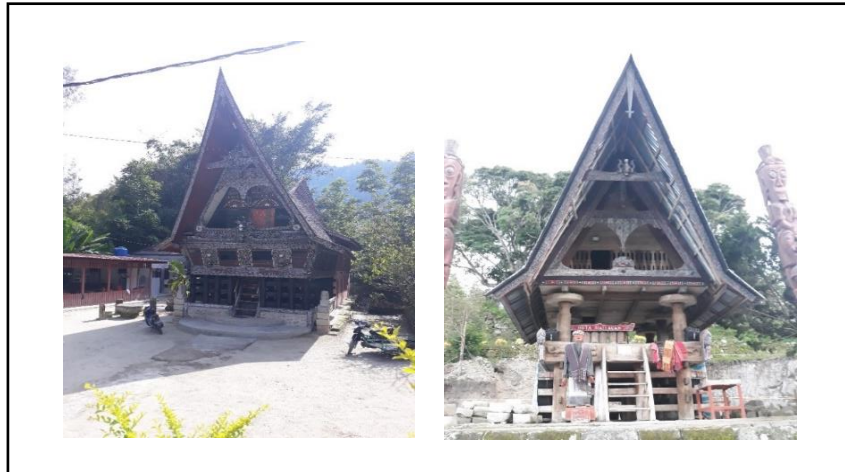


Figure 2 Traditional house at Simanindo

4.2 *Architecture in Socio-culture Aspect*

Heritage building must preserve their originality, so this heritage building still exists in current development [18]. Culture is attached to a heritage building. Even the ornaments, shapes, and color has a philosophy.

Residents agreed that heritage buildings could preserve cultural heritage (4,02) and increase awareness of local communities towards their culture (3,62). This table concludes that residents agree (3,82) that heritage building can improve sustainable tourism (Table 5).

Based on the observation, the heritage buildings were already preserved. Even many tourist destinations and accommodation facilities take this appearance to their Building. Many heritage buildings use as a museum. The heritage buildings that still exist now result from residents' hard work in keeping and preserving these buildings.

Table 5 Questionnaire result about building heritage in the socio-culture aspect

Statement	Batu Kursi	Museum Simanindo	Museum Tomok	Tuktuk Siadong	Mean
Heritage building can preserving the cultural heritage	4,12	3,92	4,12	3,92	4,02
Heritage building can increase awareness of local communities towards their culture	4,04	3,28	3,6	3,56	3,62
				Mean	3,82

Residents agree that open space is an expression place of culture (3,82) and increase awareness of local communities towards their culture (3,64). Based on Table 6, residents agree (3,73) that open space can make sustainable tourism much better, especially in the socio-culture aspect (Table 6).

Based on the interview, heritage buildings and open spaces are attached to the culture. This thing must be preserved so this culture is not fade or vanish. Many things have already been done to protect it, such as revitalization, making the replica, or using the Building. These things prove that architecture in the creative economy provides supporting facilities and shows the region's culture and identity [19].

Table 6 Questionnaire result about open space in the socio-culture aspect

Statement	Batu Kursi	Museum Simanindo	Museum Tomok	Tuktuk Siadong	Mean
Open space as an expression place of a culture	3,24	4	4,2	3,84	4,02
Open space increase awareness of local communities towards their culture	2,6	3,8	4,16	4	3,62
				Mean	3,73

Based on the result, the residents agreed that architecture in socio-culture aspects could support sustainable tourism at Simanindo. The residents decided that architecture could preserve the cultural Building, increase local communities' awareness of their culture, and be an expression place of culture. This state has been proved by many traditional houses still in good condition and used as museums, hotels, restaurants, or homes. Even in the development of the era, the culture and characteristics still exist (Figure 3). The heritage and the open space can be an expression of the culture at Simanindo.



Figure 3 Building as a museum (3a), Building as a shop (3b)

4.3 Architecture in Environment Aspect

Tourists who visit a tourist destination require a pleasing environment to make the visitors pleased [20]. The environment must keep clean to attract tourists. The architecture (conventional house) using local materials in their region. This thing makes the Building become an eco-friendly building and does not harm the environment.

Residents agree that heritage buildings use natural resources efficiently (3,87). This means the residents agree (3,87) that heritage building can make sustainable tourism, primarily environmental, much better (Table 7).

Based on observation, the Building is made from materials that are easily found in nature. Even the Building is made from natural materials, and it does not exploit the natural resources. These natural resources made this Building eco-friendly, so it does not damage the environment.

Table 7 Questionnaire result about heritage building in environment aspect

Statement	Batu Kursi	Museum Simanindo	Museum Tomok	Tuktuk Siadong	Mean
Heritage building using natural resources efficiently	4,12	3,52	3,84	4	3,87
				Mean	3,87

Residents agree that open spaces use natural resources efficiently (3,66). This concludes that residents agree (3,66) that open space can improve sustainable tourism (Table 8).

Based on the observation, open space already optimizes the use of natural resources because open space uses the space itself as its function, so there is no damage to natural resources (Figure 4). However, for the environment, if the open space uses a place for an event, it damages the environment because of the trash. These things strengthen a theory that states architecture in a creative economy is used to create a unique environment involving emotion, activities, and culture [21].

Based on the interview, an open space in the tourism destination is usually a place for events or activities. Still, after using, this open space becomes dirty because of the garbage. This happens because there is no trash can provides in the tourism area.

Table 8 Questionnaire result about open space in environment aspect

Statement	Batu Kursi	Museum Simanindo	Museum Tomok	Tuktuk Siadong	Mean
Open space use natural resources efficiently	3,68	3,72	3,5	3,76	3,86
				Mean	3,86

Based on the result, the residents agree (3,86) that the architecture in the environmental aspect supports sustainable tourism. The residents agree that architecture using natural resources

efficiently. This state has been proved by the material used in the Building, and the environment in the region is not exploited. Because of the use of natural resources, the Building looks comfortable and eco-friendly. Even it uses natural resources, the environment has no significant damage.



Figure 4 Open space in the tourist destination

4.4 Architecture in Sustainable Tourism

Based on the data, we can see that architecture can make sustainable tourism in Simanindo much better. The residents agree that heritage (3,78) and open space (3,86) can support sustainable tourism in three aspects, the economy (3,92), the socio-culture (3,77), and the environment (3,76). The final result of the questionnaires (Table 9) concludes that the residents agree (3,82) that architecture can make sustainable tourism at Simanindo much better.

Table 9 The final result of the questionnaire

Aspects	Economy	Socio-culture	Environment	Mean
Heritage building	3,65	3,82	3,87	3,78
Open space	4,19	3,73	3,66	3,86
Mean	3.92	3.77	3.76	3.82

5 Conclusion

The creative economy in architecture is a creative economy that one of the examples is a heritage building and open space. This architecture preserves the culture. This Building can be used as a landmark of a tourist destination. This Building can be used again and become an income source for local communities at Simanindo.

Based on the residents' perception, the interview, and the observation, the conclusion is that architecture can support the three aspects of sustainable tourism. First, the economic aspect, the residents agree that architecture can support sustainable tourism. This proves that many residents have a job because the building reuses and makes their income more stable. The

second, the socio-culture aspect. Many Building still has their unique characteristics, and the culture still exists in the Building, the Building still exists because the resident took reasonable care in this heritage. Third, the environmental aspect, the construction using natural resources efficiently, the region is not exploited. On the contrary, there are still many green sceneries in the area of tourism destinations. Because the material used in the Building is from natural resources, it does not damage or harm the environment.

REFERENCES

- [1] S. Duygu, "Rethinking of Cities, Culture and Tourism within a Creative Perspective: (Editorial)," *PASOS Revista de turismo y patrimonio cultural*, vol. 8, no. 3, pp. 1–5, 2010, doi: 10.25145/j.pasos.2010.08.030.
- [2] M. Rakib, "Strategi Pengembangan Ekonomi Kreatif Berbasis Kearifan Lokal Sebagai Penunjang Daya Tarik Wisata," *Journal of Chemical Information and Modeling*, vol. 8, no. 9, pp. 1–58, 2017, [Online]. Available: https://drive.google.com/file/d/1yOnm_WSHp6rlmJgvoZycyjaPIPWykGKt/view.
- [3] D. P. R. Indonesia, "Rencana Pengembangan Ekonomi Kreatif Indonesia 2025," *Departemen Perdagangan Republik Indonesia*, 2008, doi: 10.1017/CBO9781107415324.004.
- [4] P. Higgs, S. Cunningham, and J. Pagan, "Australia's Creative Economy: Basic Evidence on Size," *Growth, Income and Employment, ARC Centre of ...*, 2007.
- [5] D. Mellita and D. Erlansyah, "Pemetaan Industri Kreatif Dalam Meningkatkan Pertumbuhan Ekonomi Kawasan Urban Di Kota Palembang," in *Prosiding Economic Globalization Trend & Risk Developing Country*, 2014, pp. 1–13, [Online]. Available: http://eprints.binadarma.ac.id/2073/1/FP_20.pdf.
- [6] "Defining Cultural Tourism," 2016, doi: 10.15242/iicbe.dir1216411.
- [7] UNWTO and European Union, *Sustainable Tourism for Development Guidebook*. UNWTO, European Union, 2013.
- [8] A. Hasan, "Green Tourism Marketing Model," *Jurnal Media Wisata*, vol. 13, no. 2, pp. 267–294, 2015.
- [9] R. C. Buckley, "Managing Sustainable Tourism: A Legacy for the Future," *Annals of Tourism Research*, 2006, doi: 10.1016/j.annals.2006.05.008.
- [10] A. L. Negrușă, V. Toader, A. Sofică, M. F. Tutunea, and R. V. Rus, "Exploring gamification techniques and applications for sustainable tourism," *Sustainability (Switzerland)*, vol. 7, no. 8, pp. 11160–11189, 2015, doi: 10.3390/su70811160.
- [11] I. C. Muresan *et al.*, "Local residents' attitude toward sustainable rural tourism development," *Sustainability (Switzerland)*, vol. 8, no. 1, pp. 1–14, 2016, doi: 10.3390/su8010100.
- [12] T. H. Lee and H. P. Hsieh, "Indicators of sustainable tourism: A case study from a Taiwan's wetland," *Ecological Indicators*, vol. 67, pp. 779–787, 2016, doi: 10.1016/j.ecolind.2016.03.023.
- [13] S. H. Zolfani, M. Sedaghat, R. Maknoon, and E. K. Zavadskas, "Sustainable tourism: A comprehensive literature review on frameworks and applications," *Economic Research-Ekonomska Istraživanja*, vol. 28, no. 1, pp. 1–30, 2015, doi: 10.1080/1331677X.2014.995895.
- [14] N. Ginting and S. Halim, "Facilities' Arrangement of Tourism Area in Lumban Suhi-suhi Village Based on Environmental Element Approach (Sustainable Tourism)," *Asian Journal of Behavioural Studies*, vol. 4, no. 17, p. 15, 2019, doi: 10.21834/ajbes.v4i17.181.
- [15] S. Sinulingga, *Metode Penelitian*. Medan: USU press, 2018.
- [16] C. Chapain and R. Comunian, "Enabling and Inhibiting the Creative Economy: The Role of the Local and Regional Dimensions in England," *Regional Studies*, vol. 44, no. 6, pp. 717–734, Jul. 2010, doi: 10.1080/00343400903107728.
- [17] L. Iranmanesh and H. Nakhaie, "Study of the Roles of Eco-tech Architecture in Development of Tourism Industry," *2nd International Conference on Business*,

- Economics and Tourism Management IPEDR*, vol. 24, pp. 61–66, 2011.
- [18] M. Scerri, C. Foley, and D. Edwards, “The Value of Architecture to Tourism,” *RIBA Future Studies*, no. February, 2016, [Online]. Available: <https://www.mendeley.com/catalogue/c1e6dd36-befe-314d-925d-9484a4499b53/>.
- [19] P. Higgs, S. Cunningham, and H. Bakhshi, “Beyond the creative industries: Mapping the creative economy,” 2008. [Online]. Available: http://www.nesta.org.uk/publications/reports/assets/features/beyond_the_creative_industries.
- [20] M. Scerri, D. Edwards, and C. Foley, “Design, architecture and the value to tourism,” *Tourism Economics*, vol. 25, no. 5, pp. 695–710, 2019, doi: 10.1177/1354816618802107.
- [21] K. Holubchak, Y. Chuchuk, T. Savchuk, and I. Negrych, “The phenomenon of creative economy in Ukraine and defining its place in the architectural space,” 2019, doi: 10.2991/mdsmes-19.2019.15.