MUSEUM OF TOBA CALDERA WITH METAPHOR ARCHITECTURE APPROACH

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ABSTRACT

The design of the Toba Caldera Museum was made as a form of preservation of the events of the formation of the Toba Caldera. This design takes the initial idea from the beginning of Mount Toba before until after it erupted until the occurrence of Lake Toba. This design uses the theme of intangible metaphors so that visitors can feel the sequence of deep space, such as witnessing the event of a mountain turning into a lake. The theory used is the metaphorical theory, and the research method uses qualitative methods, and the data used are primary and secondary data. The data was collected by surveying the design location by taking photos and interviews. Secondary data is obtained from literature studies, such as journals for information. The result of this paper is the application of architectural design at the Toba Caldera Museum using a metaphorical architectural approach.

Keywords: Intangible, Metaphore Architecture, Museum, Tourism.

INTRODUCTION

Historically, Lake Toba was previously a volcano called Mount Toba. The eruption of the mountain became the most violent eruption in history and formed a hilly area with a large crater in the middle. Over time, the crater became a lake and the lake is one of the largest lakes in the world, namely Lake Toba. The caldera that surrounds the lake with an island in the middle of Lake Toba called Samosir Island provides real natural beauty for the world's population. Based on data from the Central Statistics Agency (BPS) and Tourism Policy Development of the Ministry of Tourism, the number of foreign tourists visiting Indonesia in January-August 2018 was 8,562,252 people or grew 3.81% compared to the same period January-August 2017 of 7,565,583 people. This proves that the development of Indonesian tourism is quite high because Indonesian tourism is considered to have advantages in terms of and prices. The formation of the Lake Toba area as a super-priority tourist destination for international class, made the government set the number of foreign tourist visits to Lake Toba to reach 1 million people by 2019.

Not all areas in the Toba area have made adequate facilities for tourism, for example, Tongging. The area, which is still inhabited by the surrounding community, has not received an area development so that some tourists who come to the area cannot fully enjoy the area. To attract the tourists for coming, supporting facilities are needed so that they can enjoy the beauty of Tongging comfortably. Geotourism development must meet requirements such as geological, educational, sustainable, community participation, and tourist satisfaction [1]. In early 2000, UNESCO introduced to the world a new concept, namely the Geopark. Geopark is a tourist area that has elements of external geology such as ecology, archeology, culture, and then residents participate in preserving nature reserves. Geopark has three objectives, namely tourism, conservation, and socio-economic development of the region and surrounding communities [2].

To solve problems related to the themes and information raised, the Toba Caldera Museum Design can be a solution in introducing Lake Toba. The design of the Toba Caldera Museum uses a metaphorical approach. Metaphor is an allusion or form expression, which is manifested in a building in the hope that it will cause a response from the person who sees his work to appear one with the natural surroundings both visually and feeling.

Toba Caldera Museum

The word museum comes from the ancient Greek "Museion" which means the home of nine Greek goddesses (Mouse) who mastered fine arts and science. Meanwhile, according to the International Museum Council (ICOM, 1974), it means a permanent institution, not seeking profit in serving society, open to the public, obtaining, maintaining communication, and exhibiting items of human and environmental evidence for educational, study, educational purposes, and entertainment. A museum is a permanent institution, does not seek profit in serving the public, is open to the public, obtains, preserves communicates, and displays proving objects of humans and the environment for education, study, and entertainment [3].

According to geology, a caldera is a volcanic crater that is formed by a large eruption or eruption originating from a volcano and the collapse of the buffer rocks into the magma chamber. The magma that pushes out has a sufficiently high volume that the rock on the surface or support of the volcano cracks. Until final these rocks collapsed and produced large holes or better known as volcanic craters.

Tongging is an area in North Sumatra Province, Indonesia. Where the tribes who inhabit this area are generally the Batak people of the Toba sub-tribe. Tongging is supported by natural resources and beauty where there is a lake which is a potential tourist attraction that is a mainstay in Tongging. In tourism, security is needed [4]. For this reason, the government needs to build road railings and signs. They also need to create an organization with the community to manage access to the location. The purpose of the organization is formed to provide the necessary infrastructure and also to provide benefits to the surrounding community [5].

Metaphor Architecture

Metaphor is a style that developed in postmodern times. Many say that metaphorical architecture is a language to say something through the expression its visual form produces. The word metaphor itself comes from the Latin word "Methapherein". Methapherein consists of two words, namely "meta" which means after, passing, and the word "pherein" which means to carry. According to Synder and Catanese in "Introduction of Architecture", metaphors introduce several possible patterns of parallel relationships by looking at their abstractness, in contrast to literal analogy.

According to Jenks, in "The Language of Post Modern Architecture". Metaphors are codes that can be captured by observers from an object by relying on other objects so that they can see a building as a shape similar to the building. According to Broadbent (1980), metaphor in architecture is a method of creativity that exists in the design spectrum of the designer [6]. So, it can be concluded that the metaphorical approach to architecture is an architect's style that takes the form of a figure into a form that is different from the original but still has a form that makes sense.

A metaphor is a message received by a person that shows the similarity in nature and form in something for two different objects. (Jenks, 1984). Metaphors are generated by analogy in the design of mass formation. The formation of mass is translated for metaphor analogy in architecture into architectural and geometric forms. The form of analogy to metaphors in architecture divided into 4 types (Broadbrent, 1980), namely: (1) Romantic analogy; is developing and elicits the observer's emotional response. (2) Linguistic analogy; convey information to buildings using grammar method, expressionist method, and semiotic method. (3) Living thing analogy; explained that architecture sees the formation of nature

and living things. (4) Inanimate analogy; explained that the ratio of a form does not have to be in living things [7].

According to Antoniades in "Phoetic of Architecture", a way to understand something is as if it becomes something else so that we can learn a better understanding of a topic under discussion. There are three categories of metaphors, namely: (1) Intangible metaphor (not palpable). What is meant is a concept, idea, human condition, or special quality (culture, individualism, naturalism). (2) Tangible metaphor (can be felt). Can be felt by humans both visually and materially. (3) Combine metaphor (concatenation). Conceptual architecture can fill from the initial elements in a design and visualization as a form to realize better quality [8].

Meanwhile, according to Harmanta in "Application of Metaphor Concepts in Sport Club Building Design", the categories of metaphors in architecture are: (1) Intangible metaphors. Metaphors originate from an idea, concept, or human nature such as individualism, communication, naturalism, tradition, and culture. The starting point which is the visible subject is then refracted into a real form. (2) Tangible metaphors. Metaphors that depart from visual things as well as certain specifications/characters of an object or real object. (3) Combined metaphors. The combined metaphor of the first and second types is by comparing one visual object with another but still has the same conceptual value with its visual object [9].

METHODS

In early 2000, UNESCO introduced to the world a new concept, the Geopark. Geopark is a tourist area with elements of external geology such as ecology, archeology, and culture, and then residents participate in preserving nature reserves [10]. There are several criteria for the area to be a Geopark [11]; significant geological heritage, conservation activities, sustainable tourism activities, educational activities, community engagement products, strong management structure, secure base (finance), infrastructure, and activities. This concept's biggest challenge is still providing education to tourists without reducing the 'fun' of tourism [12].

The beautiful natural potential is an attraction that can make tourists interested in visiting the area. The location can be accessed by the main road and has a clear signboard so that the location is easy to visit. Conservation is one of the destinations for cultural tourism. Besides, the management of geotourism areas must also provide optimal benefits for the community [1]. Accommodation is one component of the tourism industry because accommodation can be a place to rest and enjoy the services and entertainment available. Service development encourages the principle of geotourism to involve the surrounding community to develop creative and innovative strategies [13]. For this reason, tourist attractions must maintain the existing culture at this location as a tourist attraction. A destination is said to be developing tourism if there are tourism activities [14].

Methods of Solving Design Problems or Design Stages Design method is an attempt to find the exact physical components of the physical structure (Alexander, 1983). The problem-solving stage is to look for ideas, methods of collecting data directly to the situation at the location to be designed, and documentation. Another method in this study uses secondary data in the form of data obtained from literature studies related to the project. Literary Studies, obtained from books, research journals, and archives related to the design needed to find information that supports research. Comparative Studies of similar projects, looking for information related to similar projects as a reference for developing design ideas. The analysis is carried out based on the results of the studies of the actors, activities, space, circulation, and approaches to locations and sites. The analysis used in this design includes; Location analysis, space analysis, mass formation analysis, façade analysis, structural analysis, and utility analysis.

RESULT AND DISCUSSION

In the design, the Toba Caldera Museum is the main building of the design with functions as a means of cultural preservation, education, and recreation for visitors. An introduction to customs and culture is also provided so that the

surrounding community can take part in running the museum. With the establishment of this museum, it can introduce customs and culture as well as help increase the regional economy and residents' income.

The design is located in Karo Regency, North Sumatra, Indonesia, with a total land area of 2.2 hectares. Tongging is bordered by Situnggaling in the north, Simalungun Regency in the south, and Pengambaten in the west. (Figure 1). Using a two-dimensional (photo, image, etc.) and three-dimensional (jars, miniature, etc.) collection object presentation system.

Figure 1. Project Location

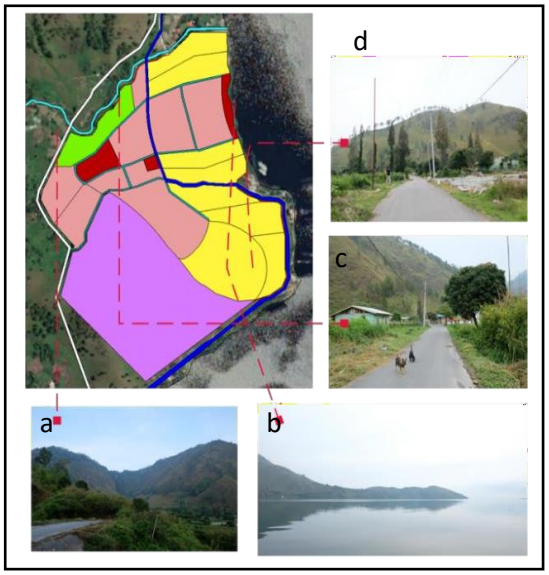

Figure 2. View

This museum uses the concept of an intangible metaphor so that the circulation of space in it is designed so that visitors can feel the atmosphere before and after Mount Toba erupted. These rooms are designed with the concept of the process of forming mountains until the volcano erupts according to the events that occurred in Lake Toba in the past, such as the magma gallery, biodiversity gallery, earthquake simulation room, ethnic and cultural galleries, then viewing rooms. Tongging is a village surrounded by high hills. To make people and visitors feel familiar with nature and the surrounding environment, this design uses mass formations taken from the surrounding caldera.

The design of the outer space is made of a leveling garden with the concept of an uneven caldera and is given a plaza at the front of the building as an intermediate space between the outer and inner spaces. As for the interior of the building, the museum area is divided into five zones based on public presence and collection, namely the Public Zone (Without Collections); Public Zone (With Collection); Non-Public Zone (No Collection); Public Zone (With Collection); and the Collection Storage Zone [15]. In the area outside the building, the parking lot is divided into 2, namely a visitor parking area and a special parking area for museum managers. Vehicles enter from the right and exit on the left so that there is no jam at the intersection next to the location. The roof structure (space truss) that supports the two buildings uses a space frame roof with box columns under it to support the weight of the roof, then reinforced with a bore pile foundation. The material used in the overall building structure is concrete.

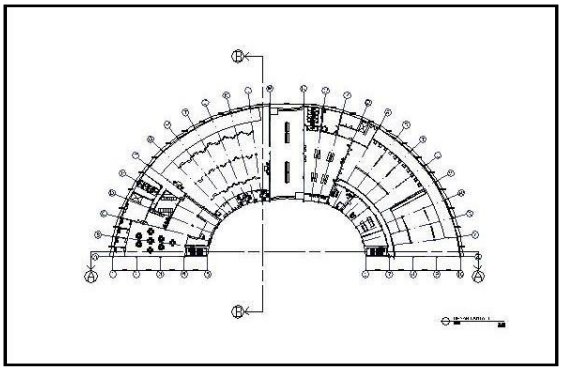

Figure 3. 1st Floor Plan

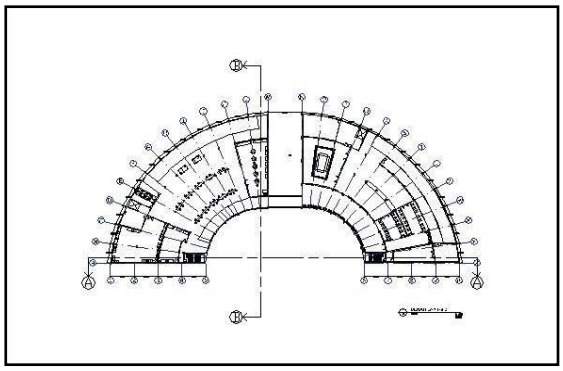

Figure 4. 2nd Floor Plan

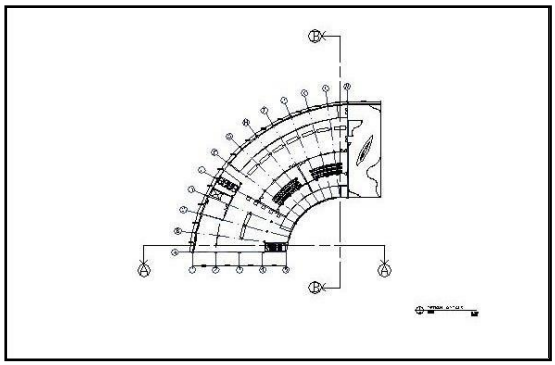

Figure 5. 3rd Floor Plan

Figure 6. Building Interior

The design of the outer space is made of a leveling garden with the concept of an uneven caldera and is given a plaza at the front of the building as an intermediate space between the outer and inner spaces. As for the interior of the building, the museum area is divided into five zones based on public presence and collection, namely the Public Zone (Without Collections); Public Zone (With Collection); Non-Public Zone (No Collection); Public Zone (With Collection); and the Collection Storage Zone [15]. In the area outside the building, the parking lot is divided into 2, namely a visitor parking area and a special parking area for

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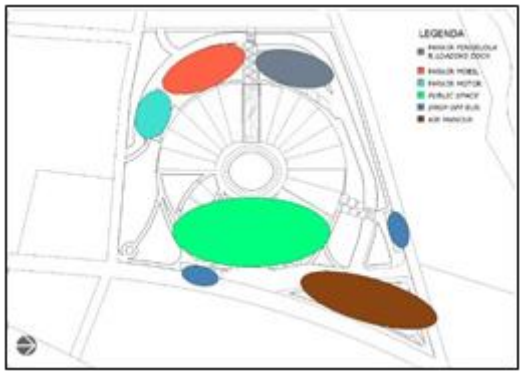

Figure 7. Outdoor Zoning

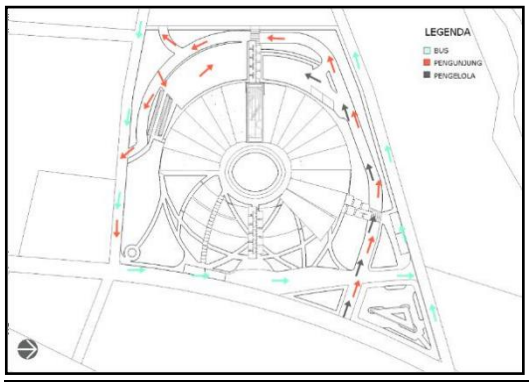

Figure 8. Outdoor Circulation

Figure 9. Building Exterior

CONCLUSION

Lake Toba is a phenomenon that occurs from natural disasters to nature tourism. Tongging is an area around Lake Toba and does not have proper tourist facilities. To increase tourists, supporting facilities are needed as a place for recreation as well as educating visitors about the history of Lake Toba. Facilities that match these criteria are museums. The museum designed is associated with a metaphorical theme that makes the building blend into nature both visually and emotionally. Using the theme Intangible Metaphore so that visitors who enter the museum feel the game of space which makes them experience a series of events that formed Lake Toba.

In my opinion, the following research needs to be developed are some accesses to make it easier to reach the tongging location, both land, and water routes. And also a decent place to stay and close to the lake or Tongging Hill.

RECOGNITION

Tongging is an area in a tourist area but has not received adequate tourist facilities so that this area is left behind other areas around Lake Toba. The purpose of this research is to develop Tongging tourism facilities while preserving the culture and history associated with Lake Toba so that it can be developed to benefit the region and the surrounding population.

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