



## Sibisa Cultural Art Center and Gallery, Toba Samosir

*Hajar Suwanto<sup>1\*</sup>, Yesica munthe<sup>1</sup>*

<sup>1</sup>Department of Architecture, Universitas Sumatera Utara, Medan, Indonesia

**Abstract.** Lake Toba is one of the areas in Indonesia that has an attractive culture and tourism sector. Therefore the government targets lake Toba performance, as one of the destinations that will be prioritized especially, foreign tourists. But the facilities and infrastructure for the tourists to enjoy the diversity of local culture is still below standard. Therefore, the Sibisa cultural arts center as well as close to Sibisa airport is something that is expected to meet the needs of tourists who come to visit and enjoy the local culture and also accommodate artisans of local art workers culture.

**Keyword:** culture, arts, center, metaphor

### 1. Introduction

North Sumatera Province is one of the developing regions in Indonesia which has a variety of cultural and other assets that can bring foreign exchange for the country, especially in the field of the tourism sector. In the case of the arrangement of areas and buildings located in North Sumatera, both urban and rural areas. For rural areas development include Toba Samosir with conflict handling and infrastructure arrangements aimed at attracting tourists to visit this place.

Toba Samosir area is a major tourist area in North Sumatera which became one of the government priorities that developed. Toba Samosir is a regency that surrounds Lake Toba. In this design, the area to be designing is Sibisa, in Ajibata district, Toba Samosir. The conditions in the Sibisa only have an airport runways, but doesn't have an airport terminal, so it isn't operating as a commercial airport, and also there are still lots of vacant land and field around the airport, which needs develops for the construction of facilities and infrastructure used to attract tourists to the area around Sibisa. Which implement the tourism sector with the development of ten tourism priorities, one of which includes the destination of Lake Toba.

---

<sup>\*</sup>Corresponding author at: Department of Architecture, Faculty of Engineering, Universitas Sumatera Utara, Jalan Perpustakaan Gedung J07, Medan 20155, Indonesia

E-mail address: hsuwanto@gmail.com

## 2. Literature Review

### 2.1 Terminology title

The title of this final assignment is "Sibisa cultural art center and gallery, Toba Samosir." The literally, sentence of the Sibisa Cultural Art Center and Gallery comes from the words Culture, Art, Center, and Gallery, which have different characteristics but has one common purpose, and the following is an explanation of the case in this project.

Culture is a basic pattern of assumptions created, discovered and developed by a particular group as learning to address external and external issues of internal adaptation and internal integration that are well-executed and therefore taught/inherited to new members as a proper way of understanding, thinking about, and feel associated with these issues [7]. Art is a skill gained from a learning experience or observations [2]. Center according to Oxford dictionaries is a place or group of buildings where a specified activity concentrated. The gallery is a room or building for showing works of art [4]. Sibisa is the name of the area located in the Toba Samosir district. So, it can conclude that the cultural arts center and the gallery of Sibisa is a container or place provided to accommodate all of the activities related to Batak Toba art and culture introduced to the audiences or tourists who are visiting that building, or purchasing handicrafts, souvenirs made by local artists.

### 2.2 Comparative study of similar functions

Esplanade is Singapore's premier performance center, this building is Singapore's largest performing center, and it first was opened to the public on October 12, 2002. It is also known as the 'durian building' as it has two large roofs adjoining and thorny located on the main waterfront land, Singapore (Figure 1).

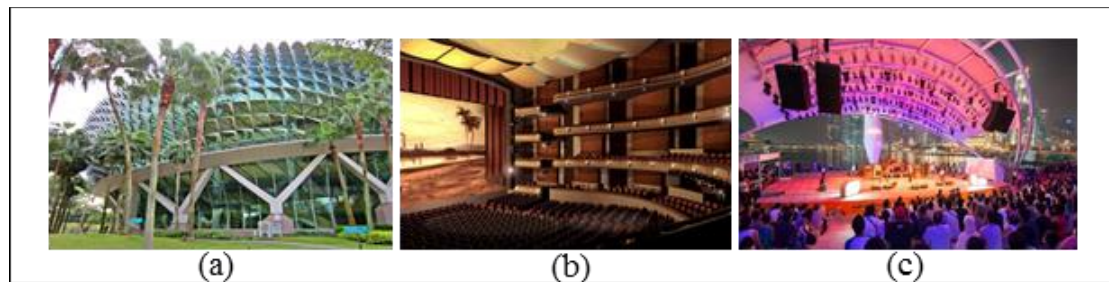


**Figure 1.** Esplanade Theatre, Singapore

(Source: <http://www.sunburstadventure.com/esplanade-singapore.html>)

Inside this building, there are several areas: the 8000m<sup>2</sup> mall Esplanade contains retail stores, food stores, etc. The main theater, accommodating approximately 2000 people, the concert hall for 1500 people, recital studio, studio theater, drama center, the outdoor show (amphitheater) holds 450-600 people, art room (gallery), library [3]. Based on the favorite fruits of local people

in Singapore is durian, so people in Singapore called this building is 'durian building.' For the center to remain calm in tropical temperatures, more than 7,000 pieces of aluminum sunscreen and double-glazed glass frames are mounted on a steel support frame to form a spiked cover that eventually becomes a unique one [5]. The Esplanade also toured the public areas and venues. The duration of each tour is 45 minutes where guests can explore places of interest in it (Figure 2).



**Figure 2.** (a) Front view esplanade theatre, Singapore (b) interior theatre esplanade (c) amphitheatre esplanade

(Source: <http://www.sunburstadventure.com/esplanade-singapore.html>)

### 2.3 Theme review

Understanding metaphor architecture based on translation word by word is: architecture is an art done by every individual to imagine themselves and science in designing buildings. In a broader sense, those include designing and building the entire built environment, ranging from the macro level of urban planning, urban design, landscape architecture, to the micro level of building design, furniture design, and product design. And it also refers to the results of the design process.

Metaphors are similar to the concept of analogy in architecture, that is to connect between objects. But this relationship is more abstract than real, which is usually present in the analogy method of the form. Parables are metaphors that use words similar to "like" to express a relationship. The metaphor of architecture can identify in 3 categories, intangible metaphor, metaphor for something not appearing in the form but embodied in concepts, ideas, some conditions or some characters; a tangible metaphor, something that is raised directly or by material; and a combined metaphor, a metaphor which is a combination of direct and indirect metaphors, either through concepts, ideas, perceptions, or forms [1]. So based on the above explanation, metaphor architecture is an architectural style that brings, transports and translates an object's metaphor into a building (three-dimensional space).

### 2.4 Comparative study of similar themes

The building located near Marina Bay Sands; in the form of lotus flowers, the function is for exhibition programs, shows, and educational activities. With 21 gallery spaces, Art Science Museum's iconic and bold architecture with inspiring lotus flowers [8]. Often holds large international exhibitions as well as a permanent on three-story gallery spaces with an area of 6,000 square meters (Figure 3).



**Figure 3.** Art science museum, Singapore  
(Source: <http://id.marinabaysands.com/museum/about.html>)

The building consists of 10 "fingers" moored on a round bottom in the center. The design of each finger shows a different gallery space that features a roof window at the "fingertips" that illuminate the dramatically curved interior walls. The Museum's roof drains rainwater through the central foyer of the building, creating a 35-meter flow of water into a mirror-like pool. This rainwater then recycled for use in buildings. Materials such as Glass Fiber Reinforced Polymer (GFRP), usually used for yachts, which not used in projects in Singapore at all, are used for the construction of this architecture [6].

### 3. Methodology

#### 3.1 Site selection method

The design location is the chosen location, and that has met the criteria of requirements to construct the building from some consideration, achievement, existing function, extent, accessibility, atmosphere/level of congestion and some \*RTRW regulation, in Toba Samosir district, Ajibata sub-district.

#### 3.2 Method/design approach to problem-solving (design stage)

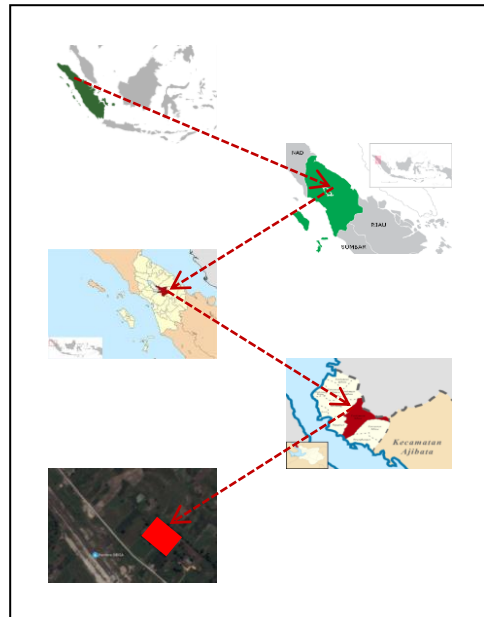
The approaches taken in the process of concept and design development are (first) field study, direct field survey to get accurate data from the location, (second) literature studies that are directly related to the titles and themes used to obtain information and literature materials by the report material to strengthen the facts scientifically, (third) comparative study of projects and similar themes by approaching the design by looking at the existing situation, the source can be books, magazines, internet, and so on, (fourth) then apply theme and basic concept of designing at art and culture center and gallery in Sibisa.

### 4. Result and Discussion

Sibisa cultural art center and gallery, Toba Samosir is located in the village of Pardamean Sibisa, the site is in the front of Sibisa airport, Ajibata, Toba Samosir District, North Sumatera.

---

\* RTRW : Rencana Tata Ruang Wilayah (Urban Planning)



**Figure 4.** Location of design

(Source: <https://www.google.com/maps/place/Bandara+Sibisa/>)

The design site of Sibisa cultural art center and gallery, Toba Samosir is located in Pardamean Sibisa village, Ajibata subdistrict. The site area is about of 2 hectares with relatively flat contour conditions, and there's corn plantation, cassava field, overlay of the shrub (Figure 4). The footpath surrounded by community corn plantations (Figure 5) and directly faces Sibisa airport (Figure 5).



**Figure 5.** (a) Airport runway, (b) corn plantation

#### 4.1 The building concept

The basic shape of the building to be designed is a rounded shape of the three parts that make into one forming a rounded triangle, with the concept of metaphor, the formation of Gorga that is transformed (Figure 6). It can explain that the application theme of architectural metaphor is taken from the formation of Gorga 'Simarugong' Batak Toba because the site itself is in Batak Toba (Sibisa Pardamean). With the incorporation of the basic vertical shape and the horizontal base shape, the four spherical forms and the two arches are then modified again to obtain the final form of the three spheres (Figure 7). The basic concept takes from the sphere of the Gorga 'Simarugong' which then formed into a three-dimensional mass formation (Figure 8).

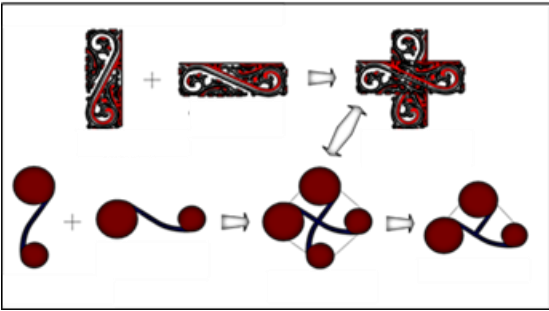


Figure 6. The concept of cultural art center and gallery

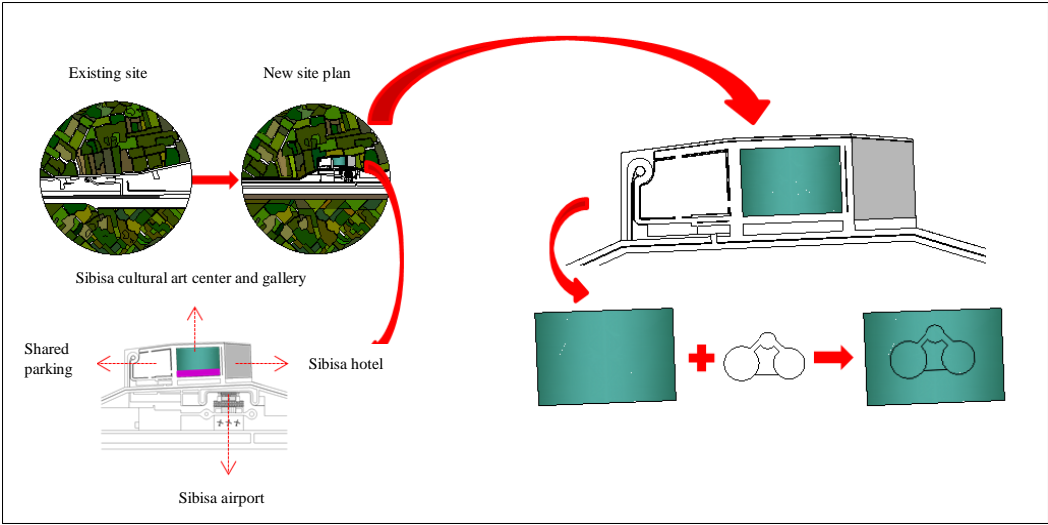


Figure 7. Arrangement master plan and Gorga form on the site

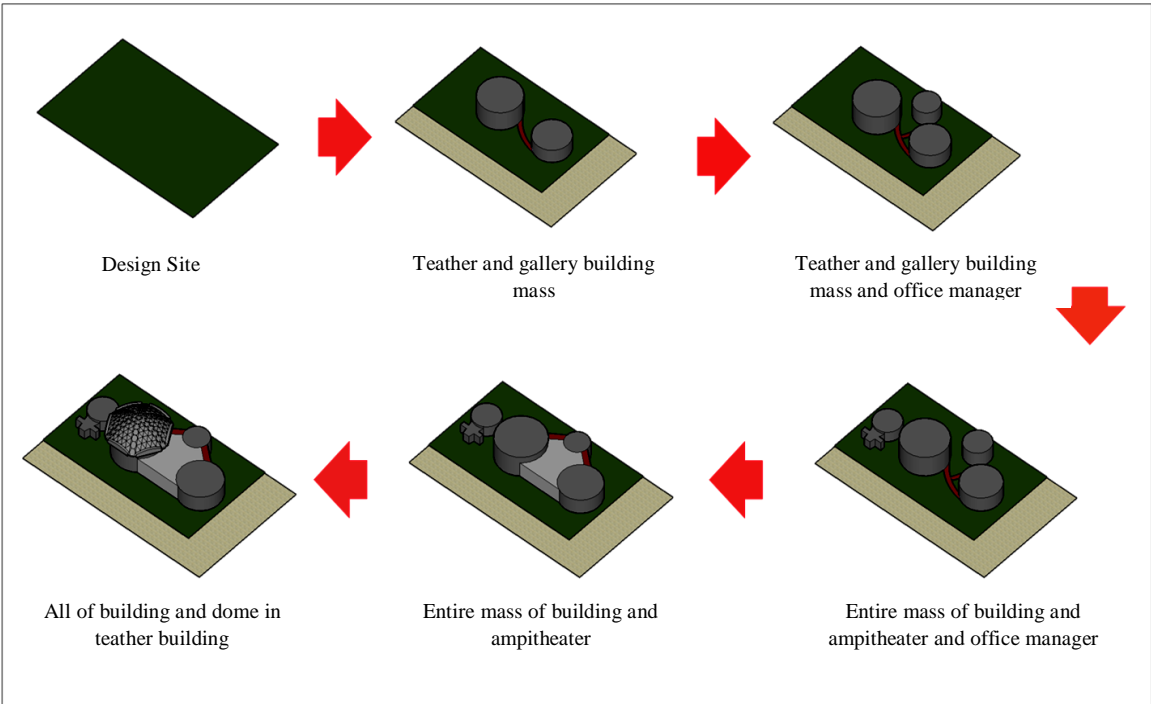
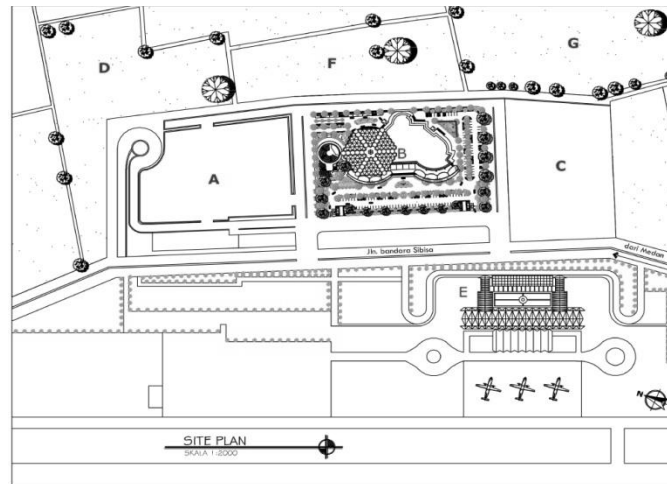


Figure 8. Three-dimensional concept building mass



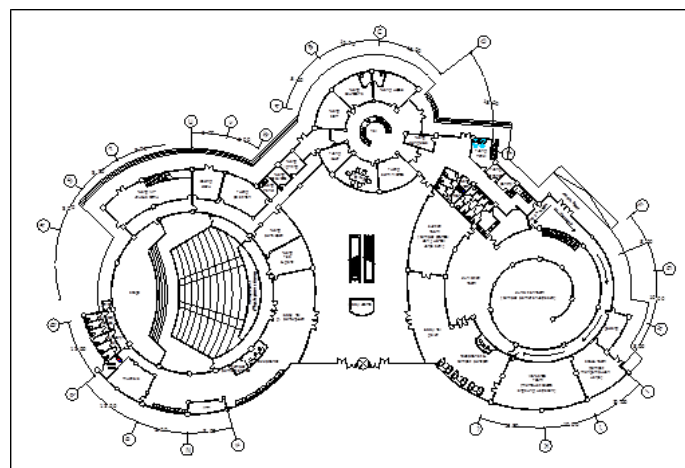
In the new site regulation we can see, in area A is a shared parking area, area B is a cultural arts center and gallery Sibisa, area C is a Sibisa hotel plan, area D, F, and G is a corn plantation, vegetable, and empty plantation. Area E is a Sibisa airport area (Figure 9).



**Figure 9.** Site plan arrangement

#### 4.2 Concept the floor plan

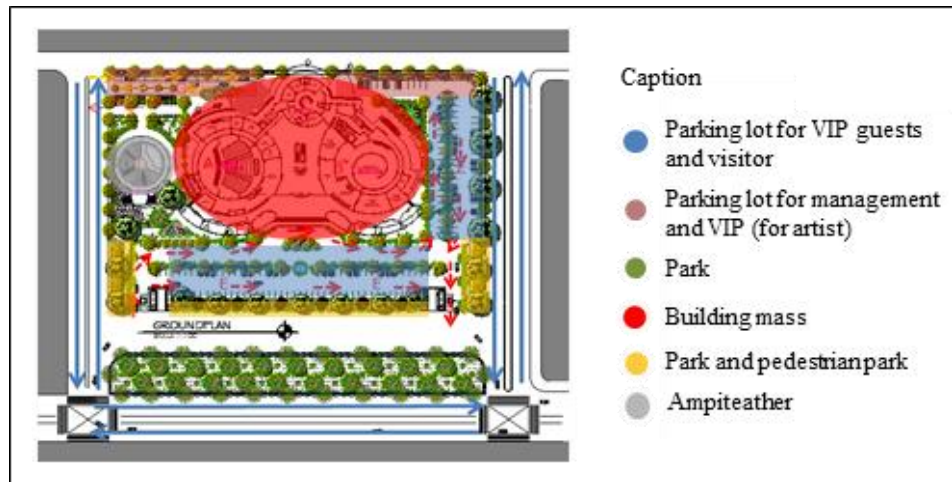
Batak performing show located on the right of the main entrance building and the art gallery is on the left of the building, before arriving at the main entrance, visitors are treated to retail, cafes, tourist information centers (relaxed room) as a place to wait for showtimes and sell-buy artwork, located at the front of the main building, on the right and left side (Figure 10).



**Figure 10.** Design floor plan

#### 4.3 Concept of exterior space design

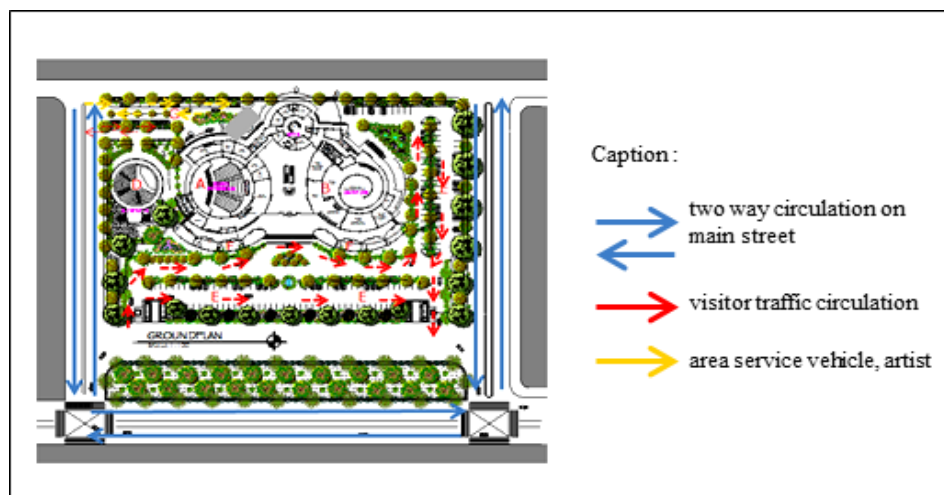
The blue area is an area for public and VIP parking; the purple area is parking for management office and artists who will do perform inside the building, red is a building site, yellow area for parks and pedestrian path, green are trees, gray are amphitheater (Figure 11).



**Figure 11.** Zoning plan concept

#### 4.4 Path of site's circulation

The following is the concept of system/circulation pattern in the design of the site, including for visitor vehicles (public) divided into the cars, bus, motorcycles, pedestrians, for workers and who fill event at the building Art Culture Center (Figure 12).

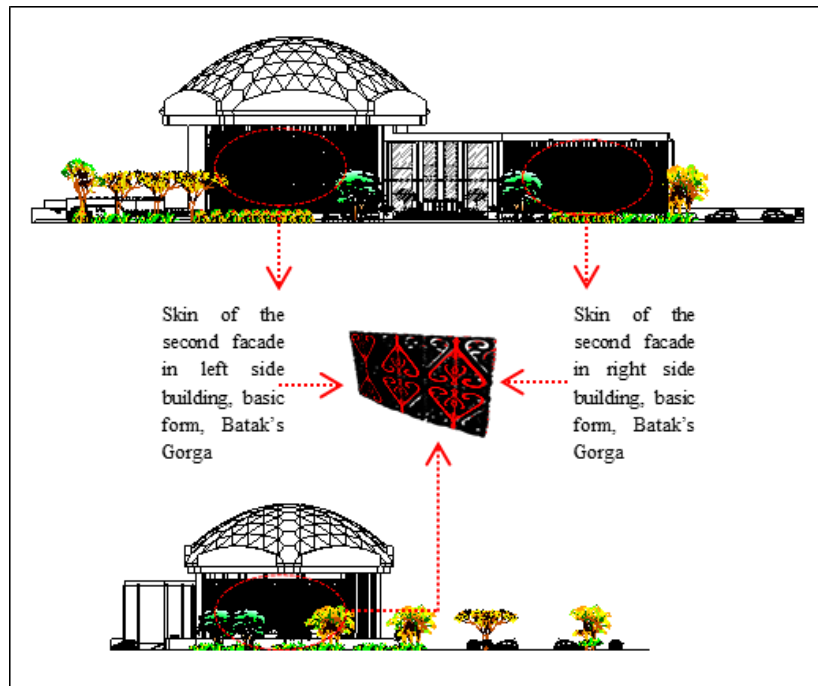


**Figure 12.** Circulation site

#### 4.5 Building facade concept

The basic concept takes from the form of spheres on the Gorga 'Simarugong' which then formed into the mass formation above. The concept of building construction using Gorga in the *skin of the second facade* (Figure 13).

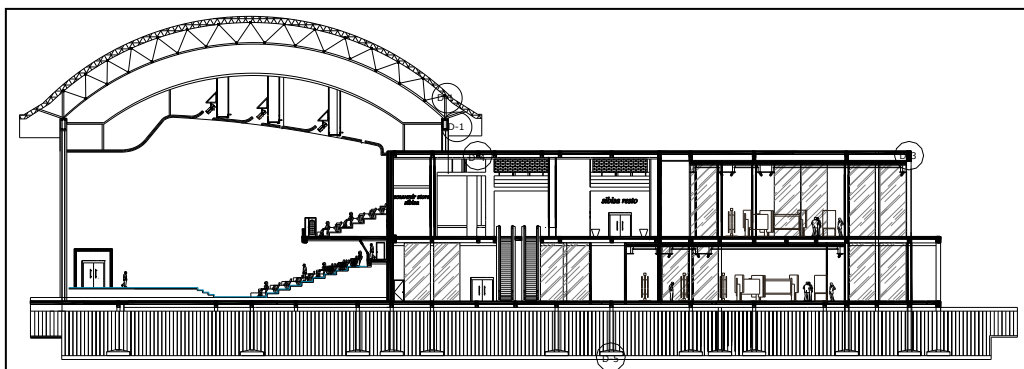




**Figure 13.** Front view and back view building

#### 4.6 Concept of structure building system

The concept used as a structure in this building there are two parts, the first upper structure as a long span structure used in building performance, and the other does not use the concrete on the roof of the gallery with stretches between columns up to 6 meters. Because the building only has two floors, the foundation used is foot plate foundation. On the roof of the building was the dome-shaped form (Figure 14).



**Figure 14.** Structure building section

The upper structure uses a regular concrete column with a span of columns to column of 6 meters, but in the performance, section using a spanning structure dome-shaped truss space to withstand tensile loads and press because there are only columns on the perimeter of the performance building.

#### 4.7 The final design

The final design of the cultural art center in Sibisa shows the building pattern carving Gorga Batak Toba, can be seen on the outer wall of the building (Figure 15). This building is designed to meet the needs of tourists who visit this area to enjoy the art and culture Batak Toba.



**Figure 15.** Perspective exterior

The existence of support functions such as Sibisa hotel, which located beside this cultural center, will make the tourists do not need hard to find another lodging in this area (Figure 16).



**Figure 16.** Perspective exterior

#### 5. Conclusion

The Cultural arts center and Sibisa gallery is located in Ajibata subdistrict. This building aims to introduce the culture and arts typical of Batak Toba, especially to tourists who visit Lake Toba. So with that activity in this building, like a place of buying and selling transactions of art and souvenirs typical of Batak. The culture and art of Batak Toba also can be kept and maintained, even introduced to tourists.

With the airport terminal in Sibisa, this cultural arts center has more value, because tourists coming through the air transportation will soon find this building, because of the art and culture center directly in front of the Sibisa airport and hotel.

#### Acknowledgment

This research is part of the requirement to obtain a bachelor's degree in Architecture Departement, Universitas Sumatera Utara.

---

**REFERENCES**

---

- [1] N. Arrumaisa, and W. A. Suryawan. Pendekatan Rancang Metafora dalam Perancangan Kafe dan Karaoke. *Jurnal Sains dan Seni ITS*, 3(2), G57-G59. 2014.
- [2] N. Bahari. *Kritik seni: wacana, apresiasi, dan kreasi*. Pustaka Pelajar. 62-63. 2008.
- [3] R. Creamer. Singapore's first performing arts library: library@ esplanade. *Art Libraries Journal*, 28(4), 34-38. 2003.
- [4] A. S. Hornby, S. Wehmeier, and M. Ashby. *Oxford advanced learner's dictionary*. 2000.
- [5] T. H. Karyono. *Arsitektur tropis: bentuk, teknologi, kenyamanan & penggunaan energi*. Jakarta: Erlangga, 62&98. 2016.
- [6] H. Y. Kim, Y. H. Park, Y. J. You, and C. K. Moon. Durability of GFRP composite exposed to various environmental conditions. *KSCE Journal of Civil Engineering*, 10(4), 291-295. 2006.
- [7] E. H. Schein. *Organizational culture and leadership (Vol. 356)*. John Wiley & Sons. 10-15. 2006.
- [8] T.H. Woon and J. Ee. *ArtScience lotus unfolds*. The Business Times, p. 28. Retrieved from NewspaperSG. 2010.