



# Study of Chinese Architectural Design in Temple Building (Case Study: Maha Dana Temple Tebing Tinggi)

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**Abstract.** Chinese Architecture is one of the architectural styles widely implemented in Indonesia, especially in the small town of Tebing Tinggi, Sumatera Utara. This can be seen from various places of worship or temples, houses belonging to the people of Chinese descent, and other buildings, one of which is in the Maha Dana Temple in Tebing Tinggi. Maha Dana Temple applies a relatively aspect of Chinese architecture, which can be seen in some of the Fengshui applications used, spatial planning patterns, building styles, building structures, and decorations. The purpose of this research is to identify the Chinese architecture aspects or elements that is implemented in the Maha Dana Temple. The research method used is descriptive-comparative qualitative research, which produces data describing what elements of Chinese architecture are applied to the Maha Dana Temple building. The information was obtained through observation and documentation in the field. This study aimed to examine and identify the application and meaning of Chinese architecture aspects in the Maha Dana Temple building in Tebing Tinggi. The research results are expected to benefit science, as a study that can be used as a reference in identifying aspects of Chinese architecture design, especially at the Maha Dana Temple in Tebing Tinggi.

**Keywords:** chinese architecture, chinese belief, temple

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## 1 Introduction

Tebing Tinggi is a transit area. It becomes one of the factors for the emergence of ethnic and cultural diversity, where this cultural and ethnic diversity can blend well to create a harmonious social life in the community [1]. The variety of tribes and ethnicities in Tebing Tinggi led to the emergence of cultural diversity with its history, one of which is in architecture. The diversity of architecture in Tebing Tinggi is reflected in various building designs representing their respective cultures, such as the Minang Architecture, Islamic Architecture, Chinese Architecture, Bataknese Architecture, etc. The Chinese architectural style is one of the

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architectural styles that are pretty widely applied in Tebing Tinggi, which is represented through the design of houses of worship and residences in the Chinese ethnic community.

In Tebing Tinggi, many temples adopt Chinese Architecture as the design concept of the building with various elements and ornaments that represent Chinese culture. One of them is the Maha Dana Temple, the oldest house of worship for Chinese people (Buddhist and Confucian) in Tebing Tinggi. Maha Dana Temple applies a relatively aspect of Chinese Architecture, such as the ornaments, columns, wall paintings, and decorations in this building, which is why Maha Dana Temple was chosen as the object of this research in the study of Chinese architectural design.

## **2 Literature Review**

### **2.1 Chinese Architecture**

According to Lillian Too (1995), factors that affect Fengshui include site condition, building direction, size, and shape of the building site [2].

Site Condition - A good site is a contoured/hilly site. A flat area is believed to have a negative element. It is generally made with floor level differences to represent a positive element to get the balance. The contoured site represents the balance essential for natural harmony (Fengshui) [2].

Building Direction - Buildings built near a location with running water (e.g. rivers) are always believed to prosper [3]. Buildings facing the river are considered good Fengshui, as they are a gathering place for positivity.

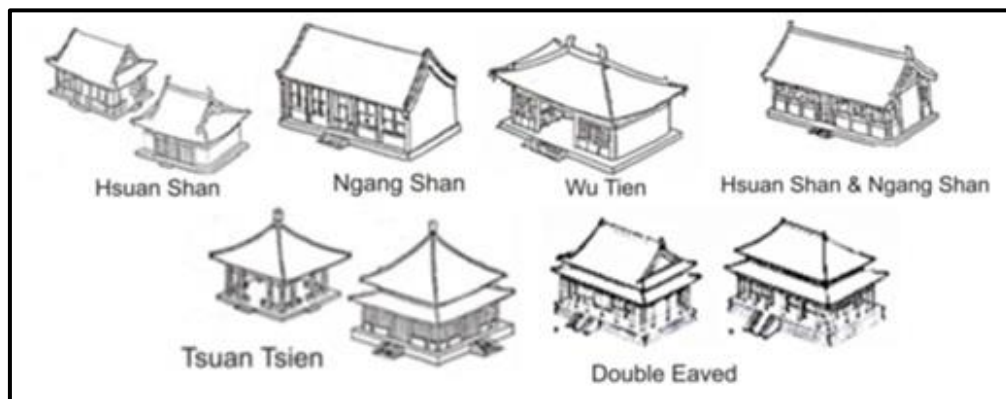
The Shape of the Building Site - Based on Fengshui theory, a rectangular site (square) is the best form because Fengshui believed that a regular (symmetrical) and balanced place would be better [4]. In contrast, an area with other states is considered challenging to build. If the building site has an excess angle, then the back of the building should be made higher than the front. This is so that positive energy can flow from the back to the front of the building.

According to Zu Youyi (no year) in Naniek (2004), the general characteristics discussed in buildings with Chinese architecture are (1) spatial planning; (2) building style; (3) building structure/construction; and (4) decoration (ornament) [5].

Spatial Planning - The spatial planning in Chinese Architecture lies in an open interior layout called the "inner court" or "courtyard" [6]. Buildings with Chinese Architecture were built with specific rules around the courtyard. This follows the Chinese people's view of life, which is

"close to the earth", namely if humans are close to the ground/earth, then it will guarantee their health [7].

Building style - Chinese architectural style can be found on the roof of the building [4]. There are six kinds of roofs commonly used in Chinese Architecture buildings: (1) Hsuan Shan; (2) Ngang Shan; (3) Wu Tien; (4) Combination of Hsuan Shan and Ngang Shan; (5) Tsuan Tsien; and (6) Double eaved roof [8] [9] [10] (Figure 1).



**Figure 1** The Shape of the Roof in Chinese Architecture

Building Structure/Construction - One of the hallmarks of Chinese Architecture is the protrusion (exposed) of the structure to show the beauty of the structural elements. Exposure to this structure can usually be found on columns, beams, and roof trusses made of wood [11].

Decoration (Ornament) - The application of ornaments is one of the most prominent characteristics of Chinese Architecture [12]. The decorations generally applied to Chinese buildings consist of animal ornaments, plant ornaments, God ornaments, and geometric ornaments [13] [14] [15].

## 2.2 Temple

According to Handinoto (1990), based on physical points, the temple building generally consists of four parts, namely: the front yard, the central holy hall, the side building, and additional building [16].

According to the Regulation of the Ministry of Religion Republic of Indonesia number H III/BA.01.1/03/1/1992, Chapter II in Wagito (2017), a building can be said to be a temple if it consists of: (1) Upasathagara (Sima); (2) Dhammasala/Dhammasabha (Dhamma Hall); (3) Bhaktisala; (4) Kuti; (5) Meditation room; (6) Study/education room, and other supporting rooms [17] [18].

### 3 Methodology

In determining the research location, several criteria are determining the appropriate location. These criteria include: (1) The research location is a building with the function of a temple; (2) The research location uses the Chinese architectural style in the building; (3) The research location has the characteristics of Chinese architectural elements in its design; (4) The research location has never been used as an object of similar research by other researchers. Maha Dana Temple, located in Tebing Tinggi, North Sumatra, became the research location because it met all of the above criteria. The research method used is descriptive-comparative qualitative research, which is carried out by producing data that describes what elements of Chinese architecture are applied to the Maha Dana Temple building and identifying and comparing the details in the research object (Maha Dana Temple) with literature on Chinese Architecture [19].

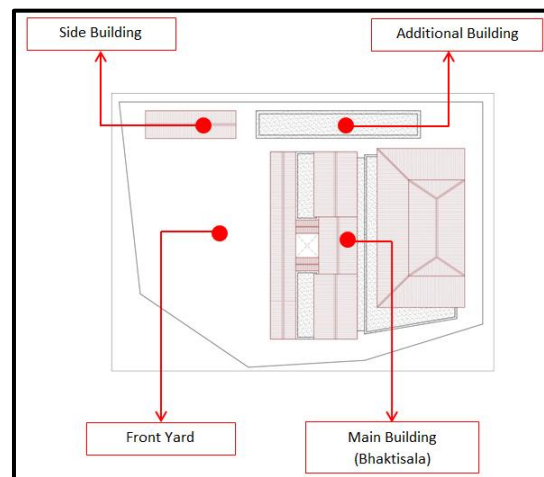
### 4 Results and Discussion

Maha Dana Temple is the oldest house of worship for Chinese people (Buddhist and Confucian) in Tebing Tinggi, which is estimated to have been established in 1880 [20]. Initially, this temple building consisted of only a one-floor building, but then Maha Dana Temple carried out a major renovation and added a new building that stood firmly and majestically behind the old main building (Figure 2). The new facility, located directly behind the main building, has been renovated for a long time and was just inaugurated in 2019.



**Figure 2** Maha Dana Temple

According to Handinoto (1990), based on physical points, the temple building generally consists of four parts, namely: the front yard, the main prayer room, the side building, and additional building (Figure 3).



**Figure 3** Physical Parts of Maha Dana Temple

The front yard is used for religious ceremonies and outdoor activities, such as paying homage to the sky god (Thi Kong). In the front yard of the Maha Dana Temple, there is an altar to pay tribute to the sky god (Thi Kong), as well as two paper and incense burners, one in the form of a pagoda and one in the shape of an open-air tub that can accommodate more burned paper and incense (Figure 4).



**Figure 4** Front Yard of Maha Dana Temple

Bhaktisala (main prayer room) of Maha Dana Temple is rectangular. The main altar of the statue faces towards the entrance, and there is an altar to put incense and candles and other offerings. In the middle of the room, there is an open space (courtyard) that serves as a place for natural light to enter. There are two small koi fish ponds on the left and right sides of the main Bhaktisala (Figure 5). In addition to enhancing the aesthetics and natural impression of the room, koi fish in Chinese belief are also believed to bring good luck.



**Figure 5** Bhaktisala (Main Prayer Room) of Maha Dana Temple



The side building at Maha Dana Temple contains several altars that worship several gods, which are generally placed outdoors, such as Tua Pek Kong, one of the gods in the beliefs of the overseas Chinese community in Malaysia and Indonesia who is considered to be as "God of Prosperity" [3] [21]. In addition, there is also the God of the Tiger, one of the gods who is often worshipped and has an altar in almost every temple (Figure 6). In Chinese culture and Taoism, tigers are worshipped or associated with certain gods because they have a fierce nature, so that they are used as symbols of authority and courage [22].



**Figure 6** Side Building of Maha Dana Temple

The additional building at the Maha Dana Temple is located on the side of the main building, which was built later after the 'main building' stood. This development is due to the ever-increasing needs of the temple concerned. There is a library on the 1st floor in the additional building, a burial place for the ashes on the 2nd floor, and the management office on the 3rd floor (Figure 7).



**Figure 7** Additional Building of Maha Dana Temple

At Vihara Maha Dana Temple, there is also a new building behind the main building, recently renovated in 2019. The new building was built with a more modern impression and did not characterize the dominant Chinese Architecture in red, but is more inclined to the Tibetan temple architecture (the westernmost province of China, bordering India, Bhutan, and Nepal) with the use of various colours which stands out in the interior (Figure 8). The application of

Chinese architectural elements in the new building is found in ornaments that decorate doors, walls, stairs, and several other parts.



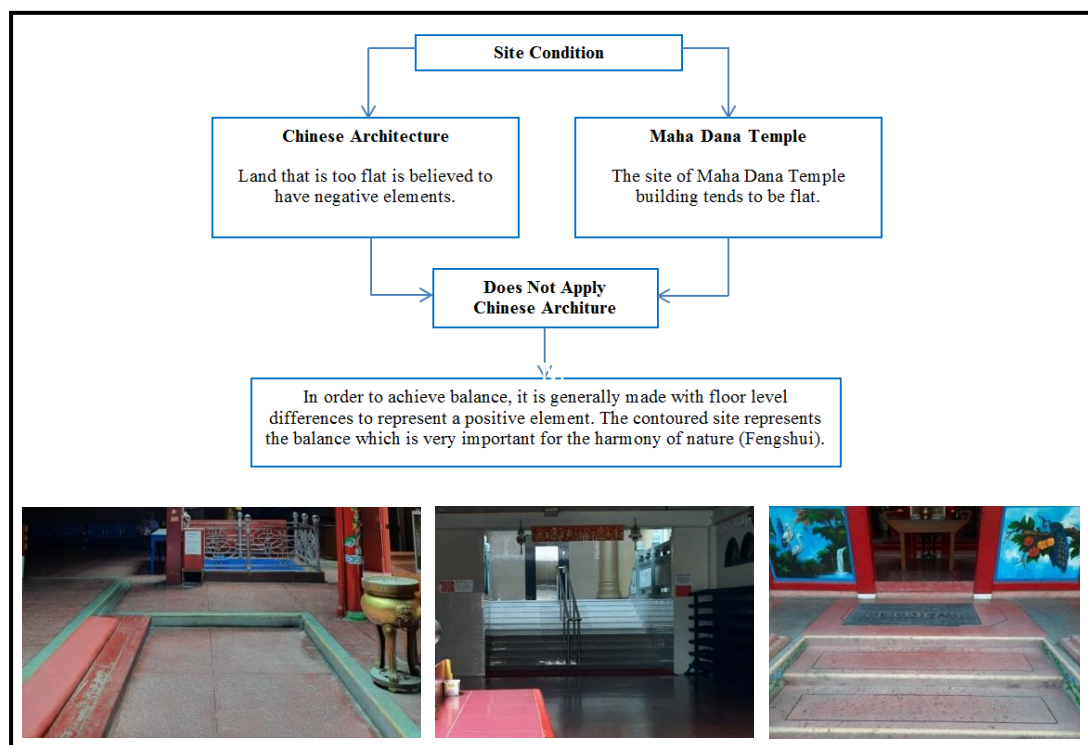
**Figure 8** New Building of Maha Dana Temple

#### 4.1 Analysis of Fengshui at Maha Dana Temple

According to Lillian Too (1995), factors that affect Fengshui include site condition, building direction, size, and shape of the building site [2].

##### Site Condition

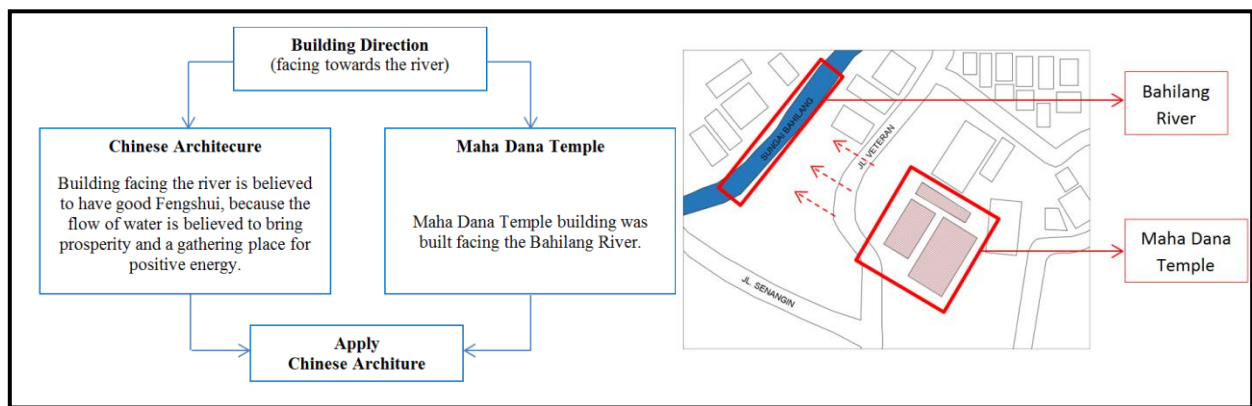
The site of Maha Dana Temple building tends to be flat. In order to achieve balance, it is generally made with floor level differences to represent a positive element (Figure 9). The contoured site represents the balance which is very important for the harmony of nature.



**Figure 9** Differences in the Height of Maha Dana Temple

##### Building Direction

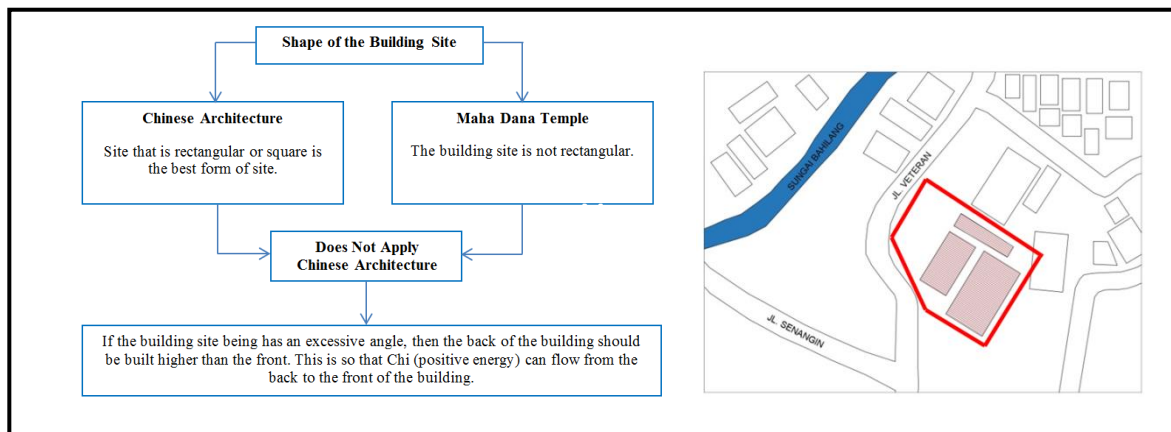
Building facing the river is believed to have good Fengshui, as they are a gathering place for positivity. Maha Dana Temple building was built facing the Bahilang River (Figure 10).



**Figure 10** Maha Dana Temple That Was Built Facing the River

### The Shape of the Building Site

Site that is rectangular or square is the best form of site. The building site is not rectangular (Figure 11). an area with other states is considered challenging to build. If the building site has an excess angle, then the back of the building should be made higher than the front. This is so that positive energy can flow from the back to the front of the building.



**Figure 11** The Shape of Maha Dana Temple Building Site

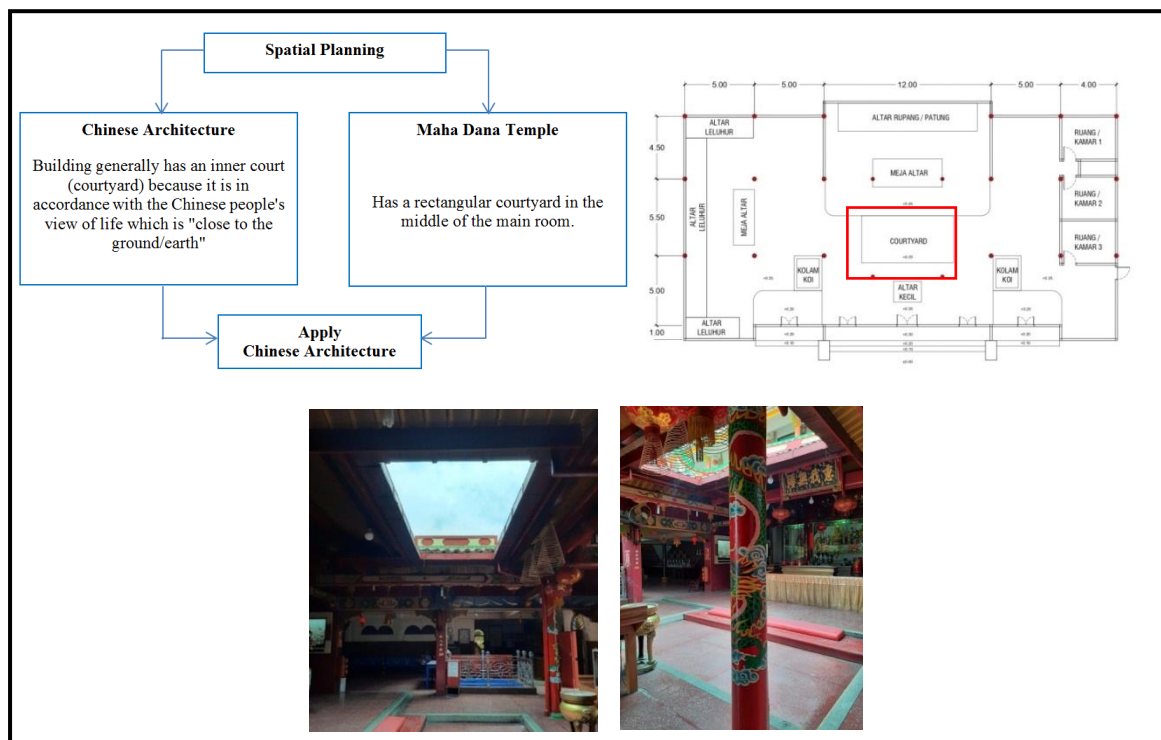
## 4.2 Analysis of Chinese Architectural Characteristics at Maha Dana Temple

According to Zu Youyi (no year) in Naniek (2004), the general characteristics discussed in buildings with Chinese architecture are (1) spatial planning; (2) building style; (3) building structure/construction; and (4) decoration (ornament) [5].

### Spatial Planning

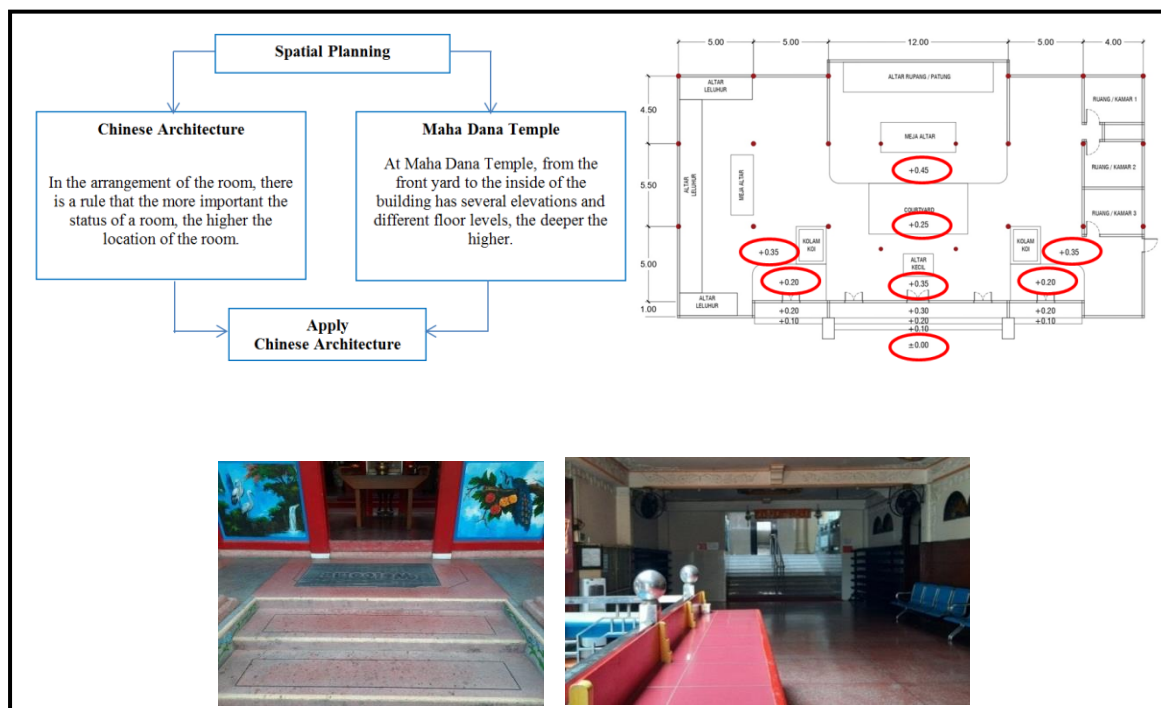
The spatial planning in Chinese Architecture lies in an open interior layout called the "inner court" or "courtyard". Maha Dana temple has a courtyard in the middle of the main room (Figure 12).





**Figure 12** Courtyard at Maha Dana Temple

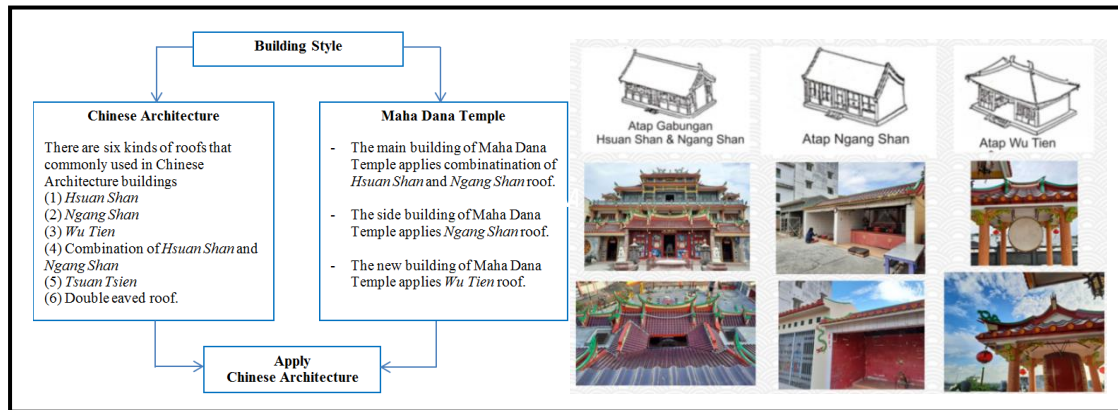
In the arrangement of the room, there is a rule that the more important the status of the room, the higher the location of the room (Figure 13).



**Figure 13** The Level Height Differences of Maha Dana Temple

## Building Style

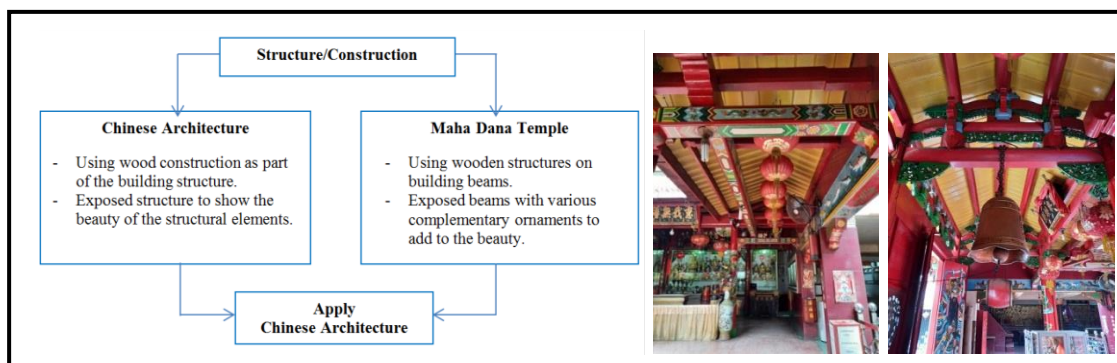
The main building of Maha Dana Temple applies combination of Hsuan Shan and Ngang Shan roof. The side building of Maha Dana Temple applies Ngang Shan roof. The new building of Maha Dana Temple applies Wu Tien Roof (Figure 14).



**Figure 14** The Shape of the Roof in Maha Dana Temple

## Building Structure/Construction

Maha Dana Temple uses wood construction as part of the building structure (Figure 15). Exposed structure shown the beauty of the structural elements.



**Figure 15** Exposed Beam Structure at Maha Dana Temple

## Decoration (Ornament)

The application of decoration and ornaments applied in Maha Dana Temple building can be seen in Table 1.

**Table 1** Application of Ornaments in Maha Dana Temple

No.	Type of Ornament	Location on the Building	The Suitability to Chinese Architecture	Description
<b>Animal Ornaments</b>				
1.	Dragon	Roof, beam, column, altar, wall carving, bell	✓	
2.	Lion	Terrace / front yard	✓	
3.	Crane	Entrance, beam, bell, wall, top floor of the building	✓	
4.	Peacock	Entrance, altar plafond	✓	
5.	Kili	Wall carving	✓	
6.	Horse	Entrance	✓	
7.	Bat	Outer wall of the building	✓	
8.	Koi Fish	Entrance, beam	✓	
9.	Other Animal Ornament	Wall carving	-	As a symbol of Buddhism at the Temple
<b>Plant Ornaments</b>				
10.	Bamboo	Entrance	✓	
11.	Lotus	Terrace, beam, altar, barrier wall	✓	
12.	Peony	Front altar, statue stand. wall carving	✓	
<b>God Ornaments</b>				
13.	Door Keeper God Ornament	Entrance	✓	
14.	Altar God Ornament	Front altar (old building), back altar (new building)	✓	
15.	Story the Life of the Buddha Ornament	Clockwise along the barrier wall	-	As a symbol of Buddhism at the Temple
<b>Geometric Ornaments</b>				
16.	Roda Dharma	Front fence	-	As a symbol of Buddhism at the Temple
17.	Swastika	Front fence, inner wall of the building	-	As a symbol of Buddhism at the Temple
18.	Meander Ornament	Outer wall of the building , altar plafond	-	As a complementary/additional ornament
19.	Other Geometric Ornament	Window, door, partition wall	-	As a complementary/additional ornament

The suitability of the application of Chinese Architecture aspects to the Maha Dana Temple building can be seen in Table 2.

**Table 2** The Suitability of the Application of Chinese Architecture Aspects to the Maha Dana Temple

No.	Chinese Architecture	Maha Dana Temple	Description
<b>Analysis of Fengshui At Maha Dana Temple</b>			
1.	Site Condition <ul style="list-style-type: none"> <li>- Built on a contoured site.</li> <li>- Land that is too flat is believed to have negative elements.</li> </ul>	The site of Maha Dana Temple building tends to be flat.	In order to achieve balance, it is generally made with floor level differences to represent a positive element. The contoured site represents the balance which is very important for the harmony of nature (Fengshui).
2.	Building Direction <ul style="list-style-type: none"> <li>- Building facing the river is believed to have good Fengshui, because the flow of water is believed to bring prosperity and a gathering place for positive energy.</li> </ul>	Maha Dana Temple building was built facing the Bahilang River.	✓ Apply Chinese Architecture
3.	Shape of the Building Site <ul style="list-style-type: none"> <li>- Site that is rectangular or square is the best form of site.</li> </ul>	Due to the shape of the site follows the shape of the road, the building site is not rectangular.	If the building site being has an excessive angle, then the back of the building should be built higher than the front. This is so that Chi (positive energy) can flow from the back to the front of the building.
<b>Analysis of Chinese Architectural Characteristics at Maha Dana Temple</b>			
4.	Spatial Planning <ul style="list-style-type: none"> <li>- Building generally has an inner court (courtyard) because it is in accordance with the Chinese people's view of life which is "close to the ground/earth"</li> <li>- In the arrangement of the room, there is a rule that the more important the status of a room, the higher the location of the room.</li> </ul>	Maha Dana Temple has 1 rectangular courtyard in the middle of the main room.  At Maha Dana Temple, from the front yard to the inside of the building has several elevations and different floor levels, the deeper the higher.	✓ Apply Chinese Architecture
5.	Building Style <p>There are six kinds of roofs that commonly used in Chinese Architecture buildings:</p> <p>(1) Hsuan Shan (2) Ngang Shan (3) Wu Tien (4) Combination of Hsuan Shan and Ngang Shan (5) Tsuan Tsien (6) Double eaved roof.</p>	<ul style="list-style-type: none"> <li>- The main building of Maha Dana Temple applies combination of Hsuan Shan and Ngang Shan roof.</li> <li>- The side building of Maha Dana Temple applies Ngang Shan roof.</li> <li>- The new building of Maha Dana Temple applies Wu Tien roof.</li> </ul>	✓ Apply Chinese Architecture

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6.	Structure/Construction	<ul style="list-style-type: none"> <li>- Using wood construction as part of the building structure.</li> <li>- Exposed structure to show the beauty of the structural elements.</li> </ul>	<ul style="list-style-type: none"> <li>- Using wooden structures on building beams.</li> <li>- Exposed beams with various complementary ornaments to add to the beauty.</li> </ul>	<div>✓</div> <div>Apply</div> <div>Chinese Architecture</div>
7.	Decoration (Ornament)	<ul style="list-style-type: none"> <li>- Ornaments that commonly used in Chinese architecture include: animal ornament, plant ornament, god ornament, and geometric ornament.</li> </ul>	Maha Dana Temple applies various kinds of ornaments of animals, plants, gods, and geometric, as can be seen in Table 1 Application of Ornaments in Maha Dana Temple.	<div>✓</div> <div>Apply</div> <div>Chinese Architecture</div>

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## 5 Conclusion

Based on the results of the research that has been done, the Maha Dana Temple in Tebing Tinggi is a building that applies the concept of Chinese Architecture to its building design. This can be seen in some Fengshui applications used, such as spatial planning, building style, building structure/construction, and applied ornaments. The application and meaning of these aspects in the Maha Dana Temple building follow Chinese Architecture, except for the site condition, the shape of the building site, and a small part of the ornaments used.

## Acknowledgement

This research is a study of Chinese architectural design implemented in temple building with the case study of Maha Dana temple located in Tebing Tinggi. The research results are expected to benefit science, as a study that can be used as a reference in identifying aspects of Chinese Architecture design, especially at the Maha Dana Temple in Tebing Tinggi.

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