

Research on the Localization of Landscape Design in Cambodia

Mingzhen Lu

Wenzhou Polytechnic, Wenzhou, Zhejiang, 325035, China

Abstract: Landscape design styles usually different in different regions, this design style is also a real reflection of the local natural customs and human history. So far, the localization of Cambodian landscape design style has formed. This paper mainly discusses the localization of landscape design in Cambodia, confirms the theory of localized landscape design, and explores the development direction of Cambodian modern landscape design, hoping to provide corresponding references for researchers in the industry.

Keywords: Landscape Design, Localization, Regional Culture.

1. Introduction

Nowadays, people's understanding of the importance of landscape design is deepening, and the requirements for landscape design are not only reflected in the quality and performance, but also in the style of landscape design. From the perspective of the development process of the localization of landscape design, it originated from the postmodernist design of European and American countries during World War II. By the 1980s, the imitative design was criticized, and a high-level, localized design style began to be formed. While protecting the regional culture, it retains the excellent, advanced and liberating ideas of modern architectural design. Up to now, the architectural design theory has become mature, which directly provides a lot of reference and reference for the localization of contemporary architectural design.

Study the unique spaces of Cambodia's most representative buildings and study the characteristics of their spatial diversity. By inspecting and analyzing the characteristic buildings of Southeast Asian countries, finding out their commonalities and individualities, and combining the regional culture and the spirit of the times, we can find an innovative way to accurately grasp Cambodian design. [1]

2. Design Concept

The connotation of the localization of modern landscape design lies in the promotion of the local national cultural spirit. In the actual landscape design, the localization elements are fully used, the localization characteristics are highlighted, and the effective innovation is carried out on the basis of traditional design concepts. Before the landscape design, the design style is not the priority factor. The first consideration should be whether the design concept is compatible with the local folk customs and natural environment. This is the fundamental factor that truly demonstrates the creation of contemporary localized design. [2]

Through the reasonable reproduction of national symbols, cultural totems, traditional buildings and other elements in three-dimensional space, these exotic creations can be more in line with the local human environment. In creation and cultural expression, these elements are regional characteristics. With the reform of foreign aid mechanism, the participation of recipient countries in the creation process of

foreign aid buildings has increased significantly. Whether the aided buildings can fit the local cultural and regional environment, and Whether it can demonstrate its national and national characteristics becomes the key point for whether the plan can win the bid and be successfully implemented. [3]

From the elaboration of the value of Angkor heritage, it can be seen that the included values include both natural and cultural aspects. The multi-level value system at the international, national, regional and community levels can be used to analyze the connotation of cultural landscape of heritage sites under the understanding of social operation mode. According to the definition of "cultural landscape" in the document "HOI AN PROTOCOLS FOR BEST CONSERVATION OF HISTORIC TOWNS AND URBAN AREAS" (2005), the cultural landscape of Angkor is a geographical environment composed of "mountain-plain-lake", including cultural heritage, natural Including resources, it carries religious activities, agricultural production activities, festivals and celebrations, has rich traditional knowledge, unique social structure and displays different cultural and artistic values. There are two types of characteristics: quasi-cultural landscape and organic evolution-like cultural landscape. After having a clear understanding of the definition and value of Angkor cultural landscape, the main task is to determine the characteristics of landscape elements, that is, the object of protection and management. [4]

3. Layout Plan

Influenced by the Book of Changes, Chinese gardens pay attention to the fact that you have me and I have you. The layout of classical gardens is basically based on Yin and Yang fish as the prototype for topological changes. However, the layout of the Cambodian style landscape is more influenced by Hindu mythology.

In the world of Indian mythology, there is a Mount Sumeru in the center of the sea. The sun and the moon run along the mountainside. There are four mountains around and four continents on the periphery. Further out are Qizhong Mountain and Qizhonghai surrounded by layers, and the outermost mountain is Tiezao Mountain, which is the edge of the world. Therefore, Angkor architecture uses Temple Mountain to come to Mount Sumeru, which is located in the center of the world. At the top stands five pagodas arranged

in a five-point plum blossom, symbolizing the five peaks of Mount Sumeru. The surrounding moat symbolizes the Aral Sea surrounding Mount Sumeru. The relatively low courtyard symbolizes the land. The steep steps require both hands and feet to climb up, which means that the road to heaven is never easy. The seven-headed snake (Naga) symbolizes the rainbow bridge that leads to the abode of the gods. The heavy corridors and moats that surround the main hall are symbols of the edge of the world.

Taking Angkor Wat as an example, there are two forms of symmetry in the horizontal direction: Mirror symmetry and rotational symmetry. From the moat, the outer wall to the central building complex, the central axis traversing the east-west direction is the center, showing accurate mirror symmetry. Even on the central axis of Square Avenue, there are two Tibetan scripture pavilions and two pools in the north and south, which are symmetrically distributed on both sides. Looking at Angkor Temple from the square avenue, there is a tall tower in the middle, and two smaller towers are symmetrically set off on the left and right, forming a mountain shape. In addition to the central axis symmetry, the Five Plum Pagodas on the top floor of the temple have two more rigorous rotational symmetries: from the east, west, south, and north, they present the same mountain-shaped composition with a 90-degree rotational symmetry. There is also a second group of 90-degree rotational symmetry: from the northwest, southwest, southeast, northeast, and four diagonal directions, it is also the same mountain-shaped composition. Only in this way can the five pagodas be arranged in such a way that the symmetry effect is maximized, and the same modeling theme is repeated in all directions.

4. Constituent Elements

4.1. High Platform Terrain

Chinese gardens and buildings are vertical and horizontal courtyards, with buildings in the periphery and courtyards in the middle. Influenced by religion, Cambodia's traditional architecture emphasizes the vertical upward shape design, which may symbolize Mount Sumeru, or it may be an expression of the desire to communicate with the gods. The foundation of this upward pursuit is naturally high platform foundation, which is caused by nothing more than waterlogging prevention, insect control, ventilation, etc. However, with the evolution, it has gradually been endowed with symbolic meaning. Therefore, in the Cambodian style landscape, high platform foundation has become a major feature.

4.2. Regular Body of Water

The role of water value in the Angkor complex is multiple: a. Symbolizes the Aral Sea in the world of Indian mythology; b. Regulates the microclimate; c. Water storage in the rainy season, irrigation in the dry season (it is precisely with the help of many water conservancy irrigation facilities that Angkor has prospered for hundreds of years, and an important reason for the disappearance of Angkor It is also because of the drought in the Little Ice Age that the water conservancy facilities cannot be used). It can be said that the regular water surface around the Angkor building is also one of its indispensable symbols. It should be noted that most of the water surface is a regular rectangle, which is completely opposite to the Chinese spellcasting. On the contrary, it is similar to the Taj Mahal. The specific reasons still need to be

further studied.

4.3. Tropical plants

Cambodia is rich in forestry, fishery, and fruit tree resources, rich in precious teak, iron wood, red sandalwood, ebony, white Mao and other tropical trees, as well as a variety of bamboo species, with a forest coverage rate of 61.4%, mainly distributed in the eastern, northern and western mountainous areas, the timber reserves are about 1.1 billion cubic meters.

The palm sugar tree, the national tree of Cambodia, is a palm family plant widely distributed in the central plains of Cambodia. In the vicinity of Angkor Wat, brown sugar trees can be seen everywhere. The brown sugar tree is beautiful and looks like fireworks in full bloom from a distance. It complements the ancient city and forms an unforgettable scenery.

Cambodia's national flower, Longduhua, also known as Silvercap flower and Luanduhua, is a kind of tree of Magnolia and Annuaceae. The flowering season of Rondo is from December to March of the second year. The flowers are white and yellow, and have a fragrant smell, especially in the afternoon and evening, when the fragrance of the flowers is very strong. Cambodians like to use it to decorate their houses and parks. Longdu flowers are almost ubiquitous in Cambodia, including on the embankment outside the Royal Palace. Before, the designers of Cambodia took the Longdu flower as the design inspiration, combining ancient and modern elements, and carefully designed the "Angkor Longdu Flower" national costume, and the Cambodian supermodel champion, wearing the "Angkor Longdu Flower" national costume, took a photo and displayed it. Once the group of photos were released, they were praised by fans, saying that the design of the dress was in line with the traditional dress of Khmer women. This is not only the inheritance of Khmer culture, but also makes the world more aware of the charm of Cambodia.

4.4. Landscape Architecture

There is a lot of rainfall in Tebenkmen Province, Cambodia. The rainwater on the roof and the site is drained in an organized way. The rainwater on the roof is discharged to the outdoor green space or drainage ditch by gravity flow.[5] The spire is undoubtedly the symbol of the Cambodian skyline, not only in the city, but also in the countryside - a high spire suddenly sticks out of a simple stilt house. The golden roof and the high four-faced Buddha will be the symbols of Cambodian style gardens. In the Cambodian style landscape design, different levels can be reflected from each other through the height of the spire and the number of eaves layers.

4.4.1. Tower

The tower is a prominent building in the appearance of Angkor, its shape originated from the temples in southern India, the outline of the temple is easily recognizable. The tower was gradually transformed from an early square to a Khmer tower with a barrel-shaped spire. The tower was decorated with complex and gorgeous leaf-shaped patterns. Each facade has symmetrical entrances, which are open or closed, depending on the purpose of the tower. On the top of the cornice, the tower begins to gradually become smaller, like a budding lotus flower. The interior spaces of the towers are stacked arches of stone, and the surfaces are meticulously carved.

4.4.2. Cloister

The entry and exit passages of the cloister are quite elegant, and there are two forms: Tower gates with towers and porch gates without towers. The porch door is like a pavilion, extending two or three entrances at right angles to the veranda. Each entrance of the pavilion has a vault, two or three square columns, and each entrance has a finely carved lintel and triangular wall on the top. Taking Angkor Wat as an example, there are many kinds of promenades in Angkor Wat, some have stone pillars, all corridors with stone pillars have two rows of stone pillars on one side, or two rows of stone pillars on both sides, and there is no one row on one side or one on each side. Because the vault of the promenade of Angkor Wat is higher, the top arch structure is not a real arch made of radial wedge-shaped bricks, but is made of stone bricks above the two walls. Close it, and then put the folded arch made of the top stone. This kind of stacked vault has a small span. If there is only a single row of stone columns, it is difficult to prevent rain by relying on a tall and narrow vault. Therefore, it is necessary to build a side gallery, add half a vault, and widen the vault. the overall width to protect against rain. Therefore, two rows of stone columns on the same side, one row supports the main vault, and the other row supports the side gallery vault.

4.4.3. Temple Mountain

The early Angkor Wat buildings were flat, and then gradually transformed into pyramids, which is the result of the development of Cambodian culture itself. Buildings resembling stepped pyramids can be seen everywhere in Angkor, known as Temple Hill, which was built by kings to establish their dominance, as Temple Hill symbolizes the mythical Mount Sumeru - in Hindu and Buddhist mythology the center of the universe.

4.5. Landscape Sketch

Cambodian sculptures mostly serve religion rather than secularism, so pious craftsmen have created a large number of sculptures of gods and beasts, but they ignore the "small" themselves. Therefore, there are very few human statues in Cambodian-style gardens.

4.5.1. Hindu Deities

Among the three major Hindu gods Shiva, Vishnu and Brahma, the most widely spread is Shiva dancing. Shiva masters the cycle of the world, and his dance heralds both destruction and rebirth. The dance of Shiva is the dance of the universe. In a certain sense, just as the cross is a symbol of Christianity and the crescent is a symbol of Islam, the dance of Shiva is a symbol of Indian culture. The dance king Shiva has a third eye on his forehead, and his right foot rests on Apasmara, the avatar of "ignorance", and supports his body to maintain balance. The upper arms are stretched out to the sides, and the right hand holds a bronze drum - the bronze drum represents the rhythm of the cosmic dance, which symbolizes life or creation - which is exactly what Shiva is at the helm. The right hand below makes a fearless gesture, granting peace to its worshipers, and at the same time representing his ability to maintain the universe. The upper left hand holds the flame - the most important force of nature representing his destructive side, and the lower left hand makes an elephant gesture, pointing to the left foot. Lifting the left foot to perform dance movements is also a sign of liberation for the soul. The form of this cosmic dance implies his five great attributes: creation, protection, destruction, removal of ignorance and bondage, and liberation of the soul.

4.5.2. Guardian Beast

In Angkor, all the temples are protected by the gods, all beautiful stone carvings with many messages, become several obvious symbols of Angkor architecture: each temple is guarded by a similar lion. A lion with a majestic curve and a huge hip; a statue of the same size as a real elephant on the four corners of the cascading platform, which is more noble. It also originates from Indian mythology: the four elephants are separated from each other and support the universe with their trunks; female The monkey king and monkey soldiers in the palace; the 7-headed giant python king "Naga" snake god railing...All this adds to the grandeur and majesty of the temple. In the Royal Palace in Phnom Penh, there is also a flying god statue at the top of the pillar as a guardian beast.

4.5.3. Buddha Statues and Altars

Cambodia believes in Theravada Buddhism, and its Buddha statues are different from those of Mahayana Buddhism in China: the meat bun is higher and more pointed, somewhat similar to the spire of a temple; The Buddha statue has less material and feels more transparent; Most of the Buddha statues are slender; The facial features are depicted with obvious ancient Khmer image characteristics, with high cheekbones and thick lips.

4.5.4. Entrance Arch

The entrance arch is the main feature of Cambodian temple architecture. Its name, Gopura, is derived from Sanskrit, which means entrance or tower-shaped entrance. It first appeared in Pallava buildings in southern India in the 7th century AD. The early arches were rectangular planes, and later gradually. Develop into more complex and delicate cross-shaped planes.

In the 12th century AD, the most prominent example is the arch at the west entrance of the Angkor Wat wall, 3 solemn arches and the promenade extending left and right, forming a harmonious and unified appearance, which is the beginning of the magnificent front façade of Angkor Wat. beginning. In the 13th century AD, there were dramatic changes in the arches. This new style is the 5 entrances of the Angkor Thom King City. The unique city gates are the only way to come to the city. Its magnificent momentum has unparalleled power and expression. The 23m sandstone arch, and on the top there are huge four-faced Buddhas carved in four directions. The sacred and contemplative face is said to be the prototype of Jayavarman VII.

Zhou Daguan recorded these sculptures in "Zhenla Fengtu Ji", "There are five large stone Buddha heads above the city gate, facing the four directions. One of them is placed in the middle, and it is decorated with gold." It shows that there were five Buddha heads carved on the city gate of Angkor at that time. Originally, there was a small Buddha head in the middle, and it was decorated with gold, but it no longer exists today.

5. Summarize

In order to avoid the simple accumulation of raw materials, the application of Cambodian design elements must dig deep into its essential connotation. The purpose of studying the application of diversified design elements in modern landscape design in the context of the Belt and Road Initiative is to explore the design rules, material use skills and space division forms of Cambodian landscape design elements. The purpose is for my use, combining the local customs and aesthetics. awareness, and create landscape design works with

the characteristics of the times and regions.

To sum up, under the influence of economic development, the concept of landscape design began to change, from simple, generous, and ornamental in the past to gradually becoming natural, and through the influence of traditional culture, landscape design began to be localized. direction change. This localized design mainly integrates traditional culture with modern architectural design, presenting a brand-new architectural design style with more local cultural characteristics. Through the discussion, the article makes the concept of landscape design localization clearer, and clarifies the principles and ideas of contemporary landscape design localization.

Acknowledgment

(1) Education and teaching reform project of the Wenzhou Polytechnic in 2021/2022 year --"Innovation and exploration of design talent training mode from the perspective of internationalization"(No. WZYGJzd202103).

(2) Research and development feedback teaching comprehensive research project of the Wenzhou Polytechnic in 2021/2022 year --"Research on PBL Teaching Practice Based on Post Process--Taking Landscape Design Course as

an Example"(No. WZYYFFP2021001).

References

- [1] Song.Huang, Research on the Application of Diversified Design Elements in Modern Interior Design under the Background of China-ASEAN--Taking the Cambodian National Pavilion in South China City, Nanning, Guangxi as an example [J], Art Education Research, 2016(4):57
- [2] Jianmin.Li, Bosen Cui,Bin Wu, Fusion Expression of Sino-Cambodian Culture in Hospital Design --Taking the Creation Practice of Tebenkhmon Provincial Hospital Aiding Cambodian as an Example[J], Urban Architecture Space,2019(2) : 62.
- [3] Wei.Chang, Qiuli.Xue, A Brief Introduction to the Regional Design Attempt of China-aid Sports Buildings[J], Architecture & Culture,2018(10) :241-243.
- [4] Sha Wu, Cultural Landscape: A Re-picked up New Strategy for Angkor Heritage Conservation and Management in Cambodia under the Context of Asian-Pacific Area[J], Architecture & Culture, 2020(12) :261.
- [5] Tingting.Zou, Jiaheng Zhang, Localization Research of Architectural Design--Taking the scheme design of the hospital in Tebenkmen Province, Cambodia as an example[J]. Engineering and Technological Research, 2019(6) : 195.