

Analysis of Ecological Wisdom of Rural Landscape Construction in Tibet

Wenxuan Liao, Longyi Yuan

College of Horticulture and Landscape Architecture, Yangtze University, Jingzhou 434025, Hubei, China

Abstract

The ecological wisdom of rural landscape construction is the result of the long-term mutual adaptation between man and nature, and the excavation of its contemporary value can promote the development of rural revitalization strategy, the ecological thought and wisdom connotation of traditional village space construction should be considered from the angle of man-earth harmony. By studying the common points between the Tibetan religious concept and the modern planning thought of our country, we can get a glimpse of the wisdom of the ancient people in ecological construction, combine the three-boundary space concept with the theory of the three-shape circle layer organically, and take the ideal model of the Tibetan traditional villages as the prototype, in order to provide a reference for modern rural planning from a new perspective, a three-dimensional theoretical model of "Three-boundary layer" is constructed.

Keywords

Landscape architecture, Landscape construction, Spatial layer, Ecological wisdom.

1. Introduction

The rural settlement landscape refers to the landscape complex with certain structural and functional characteristics, which is produced by the coordination of human culture and natural environment in a specific space-time range. As the result of harmonious coexistence between man and environment, traditional rural settlements contain valuable wisdom of ecological construction.

Ecological Wisdom is the wisdom of life accumulated in the long co-evolution process between human beings and the natural environment. Through long-term production and living practice, Tibetan people have summed up a set of construction experiences in accordance with the natural ecological environment of the residential areas. In this long-term continuous evolution process, the local traditional humanities thought as well as the regional culture and the natural environment highly adapts the fusion, altogether guides and the restraint countryside scenery construction, including the regional pattern, settlement location, spatial layout, plane texture, and so on, forming a unique landscape construction system.

The natural environment is the main factor that determines the regional difference of rural landscape, and the human condition is the main factor that determines the traditional national characteristics of rural areas. For thousands of years, Tibetans have adapted to the special natural and geographical environment, derived the simple natural ethics and religious feng shui thought, and directly influenced the spatial pattern of the rural landscape, formed in the settlement vicissitude has the high national characteristic symbolic countryside scenery. This paper focuses on the contemporary value of ecological wisdom in the construction of Tibetan rural landscape, and based on the coupling of Tibetan "Three-boundary" space view and "Three-shape" circle theory, the ecological concept and spiritual significance of rural space

construction in China should be considered from the perspective of man-land harmony [1]. By combining the influence of religious thoughts, this paper tries to find the relationship between the Tibetan space view and the traditional landscape planning theory, and excavates the hidden wisdom of landscape construction.

The ecological wisdom of rural landscape construction is the common wealth of mankind. Starting from the ideological level, this paper refines the ancient people's traditional ecological ideology and construction practice technology into the core ecological wisdom of the consciousness dimension, and explores the ways of inheritance and application, it can adapt to the rapid development of society, respond to the development and pursuit of multiple times, and provide a long-lasting and universal value for the sustainable development of our urban and rural ecological construction and ecological virtuous circle.

2. The Traditional Ecological View of The Construction of Village Scenery

Under the restriction of the harsh natural geographical environment, the landscape style of the Tibetan villages has a certain closed introversion, which is quite different from the inland, the Tibetan people's worship and exploration of nature have also brought about the distinctive religious and ecological characteristics of their traditional rural landscape. From the perspective of religious culture and geomantic omen, this paper interprets the spatial characteristics of landscape construction, which can reveal the traditional ecological view of Tibetan village landscape construction.

2.1. Interaction between nature and ecological adaptation

Tibetan Autonomous Region is located in the southwest of China, with an average elevation of 4 km, known as the "Roof of the world", a vast region, is a plateau region with complex topography and climate. According to the biography of Xiqiang in the Later Han dynasty, "Living in impermanence depends on the water and grass, the land is short of grain, and animal husbandry is the industry [2]." The social material and spiritual life are embodied in the group construction of the rural settlement, the scale and form of rural settlement reflect the mass life style of people [3](Fan Xiaopeng). Limited productivity in ancient times limited Relations of production change, and the harsh geography of the plateau limited large-scale architectural practices, so the focus of habitat exploration was on ecological suitability. Human beings have not enough knowledge of natural phenomena, so that they put their spirits on the spirits and hold a great awe for all things in the world, it is usually manifested in the location of phase and the way of living to adapt to the local climate and topography, as well as the desire and pursuit of a good living environment.

Tibet has a complex terrain with mountains, valleys and rows. It has a cold and dry climate, with a large temperature difference between day and night. Such harsh natural conditions, so that most Tibetans tend to live in the valley plains, or built on the mountains, or near the water, settlements and the natural environment is very closely linked. When the ancestors chose their residence, they needed to consider the safety of survival and the convenience of production, it gradually evolved into traditional Tibetan dwellings such as blockhouses (Southern Tibet), counting houses (Northern Tibet) and wooden buildings (Yarlung Tsangpo River basins)[4], the settlement landscape is situated on the mountain and is well-arranged; the buildings are adapted to the nature, adapting to local conditions and changing forms, with solemn style and exquisite decoration, and both practicality and aesthetics are emphasized, it embodies the Tibetan construction thought of pursuing the unity of man and nature [5]. The interaction of society, economy and Nature has a certain influence on the form structure, spatial distribution and accessibility of settlements, the production, living and practice habits of the rural settlement residents show remarkable characteristics of environmental and ecological adaptability.

2.2. Religious culture and feng shui

Tibetan people have a strong religious atmosphere, and religious culture is the main part of their spiritual life. This kind of reverence and worship, which originated from the initial stage of civilization, has deeply influenced the breeding and development of settlement culture, and is very necessary for the study of the ideological foundation of settlement landscape. The native religion of the Tibetans is Bon religion, which dominated Tibetan ideology in its early days. During the ancient name for Tibet period, Buddhism was introduced from the mainland and other places such as India. Both beliefs coexisted, and Buddhism absorbed part of Bon religion, and the two merged, gradually developed into a Tibetan Buddhism with unique ethnic. It has the characteristics of many sects and different inheritance of religious culture. The construction of rural landscape is dominated by natural belief and geomantic thought, which deeply influences the space view and construction cultural tradition of Tibetan people.

Tibetan traditional ecological views project into everyday patterns of behavior, such as specific religious rituals, thus endowing the landscape with the spirit of place. Because of the deification of mountains and rivers in ancient times, the Tibetan people have followed the tradition of turning mountains and rivers into Buddhist pagodas. According to the Buddhist scriptures, circumventing the pagoda can accumulate merit, purify evil karma, and save all beings from the suffering of hell, thus derived from the pagodas, temples around the kneeling to walk around the special circle space and landscape [7](Sanji Grass), sacred and solemn, reflecting the charm of religious aesthetics.

Geomantic omen is the knowledge of site selection and layout of human settlement environment formed by the ancient people in the process of adapting to the natural environment. The systematic construction of geomantic omen theory provides some theoretical basis for the ancient people in the settlement site selection. Tibetan traditional concept that: "The United States is the spirit of peace, peace of the children of Peace.". The local "Geomantic omen and geomantic omen" in Tibet is called "Sashi" in Tibetan, which has good and bad ideas about the direction of mountains, topography and water flow [6]. In the long-term practice and development of geomantic omen, it is believed that the location and layout of the ideal settlement should follow some basic principles, that is, it should be located on the back of mountains and water, with negative yin and yang, and the south or southeast orientation is the best. Back Mountain, winter can block the cold air, in order to obtain the protection of the gods, often according to the situation of the mountains and rivers to visualize the Buddhist eight auspicious phase, in order to find auspicious blessing site; In order to avoid the potential flood, the settlement and water area are separated by farmland, and the good orientation can get enough sunshine, which is beneficial to the development of agriculture and animal husbandry. The worship of the sacred mountain and forest is beneficial to the sustainable use of resources. On top of the basic construction principles, the villages are adapted to the local environment, thus presenting a multi-featured landscape [1].

The "Deification" of the site makes the Tibetans restricted by psychological factors to a certain extent in the construction activities. The Tibetans condense the spiritual symbols in the nature, and project them into the landscape construction, giving the natural landscape with practical significance. To optimize the spatial pattern of villages in order to improve the conditions of production and life, on the basis of respect for the traditional ideas and customs of the Tibetan people, so as to take into account the real needs of the people and their spiritual pursuits at the same time, it reflects the harmonious relationship between traditional settlement and ecological environment.

3. Traditional Space View: The Coupling Characteristic of The Three-boundary View and The Three-shape Circle

3.1. The three realms view

“Up and down the four directions for the universe, ancient and modern said the universe.” The Ancients based on the limited understanding of time and space to establish a simple space-time system. The early “Three realms” concept divided the primitive nature gods into three realms according to the different levels of their positions, that is, heaven, earth and water (or underground). There is a bon classics, “Nianqing border of victory” to its definition, the sky is the upper bound, that is, the sky, is the god “Zan” (that is, the god of fire) the place of residence; the middle bound refers to the earth, the deities on Earth are called Nian (mountain deities); Lu (dragon deities or water deities) reside underground [9] (he Quan et al.), with a Bodhi tree in the center running through the three realms. The Bon religion believed that the gods ruled over the Buddhist cosmology, and that the gods ruled over both the good and the bad. The Buddhist concept of the “Three realms” differs from that of the Bon religion, which holds that Great World, Shanghai is made up of countless small worlds, each with Mount Meru at its center and the Heavenly Palace inhabited by deities and Buddhas at the top, the higher up the mountain, the more powerful and powerful the deities become. Below, the proletariat inhabit the earth. There are many schools of Buddhism and bon religion, which hold different views on the interpretation of the three realms.

In the long-term development of Tibet, the religious culture has influenced the site selection, spatial layout and construction of the settlement imperceptibly, the spatial layout of many settlements also reflects the spatial order law of the three-boundary view to a certain extent. The elevation of most rural settlements in the mountain space is irregular. In terms of the overall environment, the high mountains and forests represent the sacred Buddha, which is sacred and difficult to approach in the upper world, high-status temples and other places of worship are usually located in the Highland Mesa above the other building communities, in line with the three-world concept of “The higher is the highest” thought; Dwellings and farmlands represent the upper world where all living things are suffering, below which the people live and produce; valleys and rivers are controlled by the god of water, and are arranged in sequence along the elevation and the terrain. Such vertical space layout foil the sanctity of religious space, but also contains an important ecological significance. Reverence for the upper world has led Tibetans to impose strict restrictions on the harvesting of sacred mountain areas, which is conducive to soil and water conservation and the sustainable use of resources, land resources can be used reasonably and efficiently, farmland can separate settlement and water area, and flood and waterlogging can be avoided while irrigation is convenient.

The spatial concept of the three realms indirectly defines the vertical spatial layout of the settlements through the circle paintings of the three realms, which is of great significance to the development of the spatial concept of the construction of the Tibetan settlements.

3.2. Tri-ring theory

Integrating natural landscapes is one of the basic concepts of our traditional planning. According to Professor Wang Shusheng, the relationship between people and natural landscapes is divided according to their proximity, it can be summed up as three levels of “Inner-outer-far”, and three levels of natural landscape environment in China, namely “Three shapes” [10] (Wang Shusheng et al.). The theory of three-shaped circle is based on the planning idea which is summarized from the historical development of urban planning in China. On this basis, the ideal model of Chinese traditional village also has the basic characteristics of three-shaped circle layer. The analysis of traditional landscape construction space theory can start

from defining the scope of space, combined with functional zoning analysis of the settlement landscape of the spatial level.

The outermost layer of the “Three-shaped” layer is the “Far”, also known as the “Four-look-ecological” layer, which is a large-scale landscape environmental layer dominated by visual inspection. The four-look refers to the planning method of the ancient people to observe the order of mountains and rivers by “Looking to the four directions”, and the environmental factors such as blocking sight lines and difficult-to-reach rivers and mountains have become the natural boundary that defines the traditional village, this area provides the ecosystem service functions such as production, adjustment and ecological barrier for the residents, and is the main object of phase-site selection. The second level is the “Outer”, or “Country-production layer”, which is the main spatial area outside the village to organize production activities and obtain Means of production, often in this “Embellishment” landscape construction. The innermost layer is the “Inner” layer, that is, the “Settlement-life” layer, which is most closely related to the village spatial pattern, functional zoning and residents' lives, it concentrates the functions of villagers' living, neighborhood communication and entertainment, and sets up the spiritual place, the order of ceremony and music, and the Order of religion [12].

3.3. The coupling of the two concepts

The concept of “Three realms” in Tibet is rooted in religious belief, and is based on the sequential spatial order constructed after long-term adaptation of site deification, it is based on the landscape and the distance between people, combined with the concept of functional division of the circle. Both of them focus on the definition of the three-life space scope of settlement, which is the integration of the spatial theory of natural landscape pattern and ecological adaptation.

According to Buddhism, Great World, Shanghai is made up of numerous small worlds. At the center of each Small World is Mount Meru, surrounded in turn by a sea of perfumes and seven golden mountains. The concept of three realms of space is the result of the ancient people's simple experience in the process of living, production and life, which is the result of projecting into the religious concept, by dividing the space into multiple levels with different functions, we can get a glimpse of the wisdom of ancient ecological construction through the common points between religious concept and modern planning thought. The three-boundary view dominates the spatial order of mountains and waters in the vertical direction, while in the horizontal direction, it agrees with the multi-circle pattern radiating from the center, there are some limitations in analyzing the connotation of Tibetan traditional rural settlement construction. Combining the three-boundary space concept with the three-circle theory, taking the ideal model of traditional villages in Tibet as the prototype, relating the environmental and humanistic traditions, we can construct a three-dimensional theoretical model of “Three boundary layers” (Fig. 1), which is suitable for Tibetan land planning, or guide modern rural planning from a new perspective.

The three-boundary layer is centered on the living space of the settlement, and is divided into three levels in the vertical direction according to the scale of the central overall planning space and the division of the three-life functional area, in the horizontal direction, with the “Inner shape” as the center, the radiation is divided into three circles, which are combined into a three-dimensional model. In the vertical direction, the upper boundary is the mountain forest and religious buildings with higher elevation, the middle boundary is the production and living space such as farmland and folk houses, and the lower boundary is the river and valley with lower elevation. In the horizontal direction, the inner layer is the “Settlement-life” layer which is most closely connected with the residents' lives, and the middle layer is the “Country-production layer” which mainly focuses on production activities, the outer layer is the “Four-look-ecology” layer of the ecological region, whose boundary is defined by visual inspection.

The three boundary layers grid the general and abstract spatial pattern, and mainly distinguish the characteristics of the horizontal boundary layer and the vertical boundary layer, to deeply understand the spatial structure and layout of Tibetan settlements, guide the construction of rural landscape ecology in the new era.

4. Conclusion and Enlightenment

4.1. Succession and development strategy

At present, the efficiency and practicability of residential construction are often paid attention to in rural construction, while the inheritance and protection of traditional construction features are relatively weak, it is very common that the architectural form is monotonous and dull, and the phenomenon of "A thousand villages with one face" is very common. With the gradual improvement of social productivity and the development of engineering technology, the local settlement has formed a consensus on the construction of traditional settlement scale on the basis of the integration of natural habitat and human habitat characteristics [15](Li Shang) , it is necessary to study the local customs, culture and religious thoughts with distinct regional characteristics, and grasp the driving factors behind the traditional construction behavior from multiple angles, and take this as a model to guide future planning and design, pass on and develop the relevant cultural connotation and technical experience.

In planning, first of all, we should follow the basic principle of harmonious coexistence between man and environment, integrate large-scale natural landscape order, seek for ecological security, efficient production, convenient living location, dredge sight lines and traffic corridors, clear functional zoning, taking into account the protection and development of the ecological environment. We should continue the place spirit of the traditional settlement space, contain the positive side of the humanistic spirit such as nationality and religion, combine the advanced construction technology, and realize the fusion of the traditional experience of landscape construction and modern technology, at the same time, it will enhance the openness of the settlement. In the research, we should actively explore the humanistic features behind the rural traditional construction mode, pay attention to the organic integration of natural landscape order, three-life function and spiritual connotation, it is beneficial to translate the traditional construction into characteristic elements and then integrate them into the design, so that the planning can be free from the monotonous and connotation-free unified form, and form a new model with both the traditional spiritual connotation and the contemporary technological concept.

References

- [1] [Zeng Wei, Zhu Wenwen. Ecological thought and wisdom connotation of traditional village spatial construction [J]. Small Town Construction,2018,36(10):79-84 91.]
- [2] Jiao Ziyun. A tentative study of manor architecture in Tibet [D] . Nanjing University of Technology, 2006.
- [3] Fan Xiaopeng. The triple reconstruction of residential buildings -- the habitat of the indigenous settlements on the Tibetan Plateau [c]//.A collection of research papers on Chinese national architecture. , 2008:98-104.
- [4] Li Qiurong. Analysis on the construction technology of Tibetan Traditional Architecture [J]. Sichuan Cement,2020(08):340 342.
- [5] Chen Yu, Cheng Bin, Gao Ming. Protection and inheritance of traditional architecture of Tibetan villages in Sichuan province in the construction of beautiful countryside [J] . Anhui agricultural science,2017,45(06):171-172+180.DOI:10.13989/j.cnki.0517-6611.2017.06.057.

- [6] Xiao Yishan. A study of traditional settlements and architecture in the Nyingchi region of Tibet [D] . Chongqing University 2016.
- [7] Sanjay grass. Study on the landscape characteristics of the Tibetan village settlements in Diebu from the cultural perspective [D] . Chang 'an university, 2018.
- [8] Hao Xiaoyu, Deng Meng. The view of religious environment in traditional Tibetan settlements in rural areas of Sichuan [J] . Theoretical research on urban construction (electronic edition), 2013 (10).
- [9] He Quan, Liu Jiaping. Religious and cultural genes in traditional Tibetan dwellings [c] . Collection of papers of the 16th China Residential Building Academic Conference. 2008:82-86.
- [10] Wang Shusheng, Shi Lu, Zhu Ling. Tri-form: three levels of natural landscape planning [J] . Urban planning, 2017,41(1) : insert 1-insert 2.
- [11] Liu Shuhu, Feng Manling, Chen Xiaohui, Zhang Binghua. Spatial evolution and planning experience of "Haisi" city--taking ancient Fuzhou city as an example [J] . New buildings, 2020(06):148-153.
- [12] Liu Shuhu, Zhang Binghua, Feng Manling, Fan Haiqiang. An analysis of the humanistic tradition and spatial features of rural landscape construction -- taking Yuezhou village, Yongtai County, Fujian province as an example [J] . Landscape Architecture, 2020, 27 (03): 97-102. DOI:10.14085/j.fjyl.2020.03.0097.06.
- [13] Lienke. Study on the natural environment adaptability of Lhasa local settlements and folk houses [d] . South China University of Technology 2020. DOI:10.27151/d.cnki.ghnlu.2020.003931.
- [14] Xiong Wei. Study on the spatial pattern of traditional settlement in Bailong River valley of Gannan Prefecture [d] . Lanzhou Jiaotong University, 2018.
- [15] Lee sang. Study on the space of traditional settlement in Monpa people, Mêdog County [D] . Beijing University of Civil Engineering and Architecture 2017.