Research on Architectural Landscape Culture of Zhuang Ethnic Villages in Northern Guangxi

Xiaoying Lu¹, Yanhai Wei² and Jiajue Fang²,*

¹Guilin Tourism University, Guilin, Guangxi 541006, China
²Guangxi Science & Technology normal University, Laibin, Guangxi 546199, China
*Corresponding author’s e-mail:jiayu10000@163.com

Abstract: The traditional village architecture of ethnic minorities is an important carrier to inherit and develop the traditional culture of local minorities, which records the course of the development of minority nationalities in thousands of years. It is the most direct national cultural heritage. With the vigorous implementation of the protection of the material and cultural heritage of the traditional villages and towns in the whole world, the research on the architectural landscape of the traditional minority villages has been strengthened day by day. In this paper, the architectural structure, landscape, development status and protection measures of Zhuang villages in northern Guangxi are analyzed. The research and analysis of Zhuang village architecture in northern Guangxi is of great significance for inheriting and carrying forward the traditional culture of minority nationalities and strengthening the cohesion of the people of all nationalities.

1. Introduction
Every ethnic minority has its own cultural characteristics. The architectural landscape of ethnic villages is the embodiment of national culture and the crystallization of wisdom left by the ancestors, which should be studied and passed on. The village landscape of Zhuang nationality in the northern Guangxi is an important aspect of the intangible cultural heritage in Guangxi. Its village architecture landscape is receiving concern. It is of great significance to study the architectural culture of ethnic villages, so as to provide reference value for the inheritance and development of Zhuang village landscape in Guangxi.

2. The Historical Origin and Geographical Position

2.1 Historical Origin of Zhuang Nationality in Northern Guangxi
Guangxi, namely Guangxi Zhuang Autonomous region, short for "Gui". Zhuang population is the largest in Guangxi, accounting for 33% of the total. Zhuang nationality is the aboriginal nationality of Lingnan area of China. It is the descendant of the Baiyue people in South China and Southwest China. As a native nation of Guangxi, Zhuang nationality has its rich history and culture. The ancestors of the Zhuang nationality mainly lived in the mountains with poor conditions, together with other ethnic groups, formed a unique culture in living style, architecture and so on. The traditional customs and culture of the modern Zhuang nationality are closely related to the ancient Baiyue people, and also have the new characteristics of fusion with other nationalities. In 1949, the new China was founded, and the state conducted national investigation and national throughout the country. After demonstrating and comparing their physique, history, customs and language, and on the basis of full respect for the wishes of the people of all nationalities, they collectively named "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booman", "Boo", "Booma
"Bunon", "Burao" and so on in various parts of Lingnan as “Tong”. "Tong" was officially changed to "Zhuang" in 1965, which is the origin of the history of the Zhuang nationality for thousands of years. ("Brief History of Zhuang Nationality", 1980)

2.2 Physical Geographical Location in Northern Guangxi
Northern Guangxi is located in the north of Guangxi, and Hunan, Guizhou border. It geographically refers to Guilin city and counties such as Quanzhou, Guanyang, Xingan, Yangshuo, Mengshan, Longsheng; Hezhou; North of Liuzhou, such as Rongshui, Sanjiang counties. The ancient productivity was not developed and people depended heavily on nature. Therefore, the natural geographical environment and conditions played a very important role in the study of the architectural culture and residential settlements of ethnic minorities. The northern part of Guangxi is located at the edge of the Yunnan-Guizhou Plateau, its topography is inclined from northeast to southwest, surrounded by mountains. Some areas in the middle are basins, called "Guangxi Basin". Climate of Northern Guangxi is dominated by mountain climate---long summer, short winter and rich rain, which is suitable for rice planting and tree growing. The plenty of high quality trees provide abundant wood materials for the construction of ethnic villages. Therefore, the main building material there is wood, which is different from the brick structure of Han nationality. Because people live in high mountains, they are less affected by the outside world. So their unique customs and culture preservation is relatively complete. The building and village have formed unique and research value of cultural treasures, which is called “living fossil”.

3. Research value of Architecture Landscape of Zhuang ethnic villages in Northern Guangxi

3.1 Historical Value
The ancient villages of Zhuang nationality in northern Guangxi have a long history, and still stand firm after a thousand years of alternate development. In the long process of production and life, it forms its own special cultural tradition, housing construction and living style, which itself is a precious cultural resource and a static history, recording the rise and fall of civilization in this region for thousands of years.

3.2 The Humanistic Value
Zhuang villages shows the long history accumulation and the process of cultural development of Zhuang nationality. The architectural style and living habits also write the history here, including the humanistic value of Zhuang people.

3.3 The Artistic Value
At present, "Zhuang architectural community" in Zhuang village in northern Guangxi is relatively complete with national characteristics. The villages maintain the traditional historical pattern, and the street space is abundant. At the same time, traditional building such as the Gan Lan remains intact, with high artistic value. In addition, it retains a large number of Zhuang landscape elements. These landscape elements appear generally in the entrance, building roofs, walls and so on, with distinctive characteristics, simple techniques.

3.4 Economic Value
The architectural community remains basically intact and can still meet the living and other needs of the Zhuang people, so it has certain residential value. In recent years, the national policies have reflected the importance of tourism development in minority areas, while the traditional material culture, customs and spiritual culture of Zhuang villages have certain tourism development value. Reasonable and appropriate use of its characteristic culture for tourism development planning can promote the local economy.
4. External Landscape of Zhuang Ethnic Villages in Northern Guangxi

4.1 Zhuang Villages
Zhuang people like to live in ethnic groups, the village scale is not large. Zhuang villages are built along the mountain. The main road in the village along the mountain, together with some soft stone and stone alleys. The gap between the building winding zigzag, the front and the back of the house have steep ridges. Building materials are mainly wood and stone.

4.2 The Surrounding Environment of Villages

4.2.1 The Location and Orientation of Villages Inhabited by Zhuang People.
In harmony with nature, the village is generally oriented towards the south, based on the terrain and arranged in an orderly manner. The establishment of Zhuang villages is the consideration of environment and ecology in long-term practice of production and life: most village sites are close to the places with mountains and water, which can reduce the cold air of high mountains, and irrigate terraces with water, so the ecological environment is pleasant.

4.2.2 Ecological Environment
Zhuang people in northern Guangxi pay attention to the greening and protection of the ecological environment. Many rare trees such as figs, camphor, fir, hemlock and others were handed down in northern Guangxi. Banyan trees are planted at the heads of Zhuang villages. It is a good place for villagers to exchange activities and shade the sun.

4.2.3 Terrace Landscape
Most of the villages gather on high mountains, with more mountains and less land. In order to maintain the balance between human and ecology, meet the needs and provide sufficient living space for the survival and development of people, terraced fields have emerged as the times require. These fields on the hillside can stabilize the soil and cut off the flow, so that the valuable land resources can be exploited. At the same time, the GanLan and terrace are set against each other, which not only reflects the culture of Zhuang village, but also reflects a harmonious ecosystem: man, water, animal, field and forest coexist harmoniously.

5. Residential Building
Architecture is the combination of art and technology and is called "the history of stone". It has the aesthetic requirements of the designers and the living requirements of the occupants. It can represent the image of a group and a region. Zhuang villages pay attention to the dependence and harmony of environment and layout. People make full use of ecological land forms, draw materials from local materials to create flexible and changeable architectural forms with wood and stone. The residential design of Zhuang nationality in northern Guangxi takes the typical concept of Zhuang nationality residence and family ethics as the symbol of distinguishing it from other building systems, and shows the rich information of "man", "thing", "field" and "time". The elements exist harmoniously and systematically in the ecology of northern Guangxi.

In the process of development of Zhuang village, architectural aesthetic attention is paid to the convenience of selecting materials, the beauty of modeling and the harmony with mountain body. Because the villages are built along the mountain, with contour line arrangement, the terrain is steep. The steep conditions make Gan Lan the main building of Zhuang folk residence. The "GanLan" is also called the "hemp column". In the Ming Dynasty, Chiya had more accurate records: "Mao Suoxuan, woodcutting rack, man perched on it, cattle, sheep, dogs and animals under it, it is called the hemp column," It is described in the Book of Wei staff Biography. "according to the trees, the building blocks are used to occupy the trees above them." The name is GanLan. The size of GanLan depends on the size of the family. " (Xie Hua, 2010)
5.1 Building Structure
Firstly, the layer of the building is usually two or three, and the highest is four or five. The ground floor of a house is used for storing goods and raising livestock. Because in mountains, the ground floor is the highest area. Residents mainly live on the second floor or above. Secondly, the entrance is mainly on the front side. Tong House and Fire Pool are connected to one or two windows on the hillside, forming a large and transparent front hall space. The winter of northern Guangxi is cold. In order to keep the sunlight and make it warm, there are many windows in the building, but no open portico, which is replaced by the gate building to ensure the duration of the sunshine. The main body of the house frame is based on the traditional Chinese pedestal structure. The beams, columns and other structures are all Chinese fir. The columns are connected by square wooden strips, without any iron nails. The walls and floors are lined with slotting board. The wood frame saves wood, but the space is spacious, and the utilization ratio of the upper attic is high. The wood in and out of the house is painted with tung oil, making it heat-resistant, acid-resistant, alkali-resistant, more insulating, anti-corrosive, moth-proof, warm in winter and cool in summer, which is more comfortable and ecological for people to live. It is able to resist strong winds and earthquakes, so the structure of house remains intact after hundred years. Besides wood, bamboo, stone, mud, brick, oil and other natural materials are used to process the house into a simple, beautiful form. Its natural and environmental feature make the architectural landscape more natural and harmonious. Thirdly, the roof is with hanging mountain (double slope roof) plus rain shed. The eaves is outside the roof, slightly raised corner, looks tall and elegant with unique charm. The eaves out of the roof, the eaves column or hanging post holes help to obtain the most space. Its internal division has the greatest flexibility, good light and ventilation. The structure of the GanLan is rigorous. The components and components are closely connected to each other, and the wood is light and soft. In the house, floor, wall space or furniture are all made of wood structure, thus creating a unified and simple atmosphere from the feeling, vision and hearing.

5.2 Architectural Decoration
Decoration is one of the basic elements of architecture. Windows, doors and windows, Liang Zhu, eaves, partitions, furniture and so on are all decorative elements. They can not only beautify houses and protect architectural entities, but also emphasize architectural modeling. The architectural decoration of Zhuang villages in northern Guangxi inherits the traditional decorative art of Zhuang nationality in terms of skills and forms. People are good at artistic processing according to the characteristics and texture of materials. They use painting, carving, pattern art to beautify wooden doors and windows, eaves, arch, etc. The color is the natural beauty of the wood color pattern, with occasional blue and red embellishment. It is out of nature but better than nature. The painting, carving are all simple plants, rivers, mountains, clouds and auspicious characters. Doors and windows are simple and rugged with practical value and high artistic appreciation value.

In a word, the GanLan of the Zhuang nationality in the north of Guangxi are ecologically suitable for the high temperature, rainy and humid climate in the south. The single building is like this, the whole architecture of the village landscape is the same.

6. Problems Existing in the Development of Architectural Landscape
The Zhuang ethnic group living in the north of Guangxi has been stable and peaceful for a long time. In recent years, the situation of the destruction of ethnic villages has become increasingly serious. Reasons are as following:

6.1 Development of Urbanization
The traditional houses are rapidly disappearing in the process of urban construction in rural areas, and the villagers abandon the national features in the process of rebuilding old house. Further more, modern building materials have appeared in many traditional villages, "pseudo-traditional characteristic buildings" with different architectural styles. In addition, the fire prevention
consciousness is not strong enough, which makes some wood-structure buildings suffer from fire. It is difficult for the traditional settlement symbols of the original ecology to continue.

6.2 Blind Innovation and Improper Extraction of Cultural Elements in Tourism Development.
With the development of tourism industry, the architectural landscape of traditional minority villages has been reformed. Some factors are unreasonable, such as the destructive change of spatial pattern, the whole landscape, blind innovation of new buildings, cultural elements, etc. Because of improper use of national characteristics, many undetectable elements of traditional architecture is easy to be ignored. All these lead to the modern loss of traditional Zhuang culture. The loss of these traditional elements is irreversible. Thus further affect the heritage of the traditional architecture culture, and result in the loss of the original characteristics of the traditional village culture.

6.3 Damaged by Natural Disasters or Relocation of Residents
The natural destruction refers to the damage caused by the villagers going out to work, the limit financial resources, and weak consciousness of protection, so the house is in dis-repairing and is damaged by natural erosion. Natural destruction is a cause that can not be underestimated and ignored because of its relatively slow speed, but more thorough.

It is of great realistic and historical significance to control and protect the architectural landscape of traditional minority villages for inheriting the excellent architectural culture of the nation and promoting the economic and social development.

7. Conservation and Usage
As an intangible cultural heritage, the traditional settlement of Zhuang nationality in northern Guangxi is non-renewable, so it is the first place to follow the principle of integrity and comprehensiveness. In view of the characteristics of the traditional settlement in northern Guangxi, the following aspects should be carried out:

7.1 Registration of Ancient Buildings
The important buildings of Zhuang nationality villages in northern Guangxi are investigated, registered and recorded, the landscape protection plans of traditional ethnic villages are drawn up, and the scope of protection is delineated. In addition, the ancient buildings of traditional villages can be declared as cultural relics conservation units at all levels, which is conducive to the sustainable and long-term protection of ancient buildings.

7.2 Maintenance of the House
Because of the long history, the buildings were damaged by wind and need to be repaired. They should be repaired in accordance with their old appearance and kept the original design as far as possible. On the the principles of "authenticity", "minimum intervention", "integrity" and "identifiability" of traditional architectural landscape, the traditional building facade, atrium and wooden structure system are repaired and renovated, so as to achieve the protective development of traditional buildings.

7.3 New Buildings Develop Traditional Architectural Styles
The new building should inherit and develop the traditional architectural style on the basis of fully excavating and studying the culture and elements of the traditional architecture, to make the new style coordinated with the old architecture style, so as to make innovation to the new architecture.

7.4 Scientific Development of Tourism to Achieve Win-win Situation
The protection of the traditional settlement of Zhuang nationality in northern Guangxi can not be settled down, conservative, and need to interact constantly to form different cultural communities and cultural circle chain, cultural tourism must be excavated if it wants to develop. The traditional villages of Zhuang nationality in northern Guangxi have more national and folk characteristics of the artistic
elements. The development of tourism with national characteristics can promote cultural factors such as national protection of buildings, bring economic benefits on the basis of protecting the inner space and external environment of the village, and increase the sense of pride and belonging of the villagers, so as to spontaneously protect villages from destruction.

8. Conclusion
Due to historical and geographical reasons, the landscape culture of Zhuang villages in northern Guangxi has grown up in an unbalanced cultural ecology, but the surface culture of its original ecology and its deep cultural connotation cannot be obscured and marginalized. Therefore it is necessary to study the landscape design of Zhuang villages in northern Guangxi from part to whole and from local to integrated into the overall planning of regional development and new rural construction. However, there are still many areas that need to be refined and deepened. It is inevitable that the research is not deep enough and perfect. The follow-up research will further investigate and summarize, pay attention to participatory experience, in order to dig into the characteristics and charm of the traditional settlement culture of Zhuang nationality in Northern Guangxi.

Acknowledgement
It is a project of 2017 Basic Ability Improvement for Young and Middle-aged Teachers in Colleges and Universities in Guangxi: The topic is Study on Translation of Tourism Public Signs in Guilin from the Perspective of Ecological Translation (2017KY0903).

Reference
[1] Cai Anning. Cultural Connotation of Architectural Decoration Elements of Zhuang Nationality in Guangxi [J]. Art and Technology, 2015.6
[2] Dai Shunsong et al. Record of Guangxi National Traditional Architecture [M]. Nanning: Guangxi Science and Technology Press, 1991.
[3] Huang Chunbo. On the Traditional Architectural Decoration of Minority Nationalities in Guangxi [J]. Meidaguan, 2007, (09)
[4] Guangxi National Traditional Architecture Record [M]. Nanning: Guangxi Science and Technology Press, 1991: 10-11.
[5] Lei Xiang. Guangxi Folk Houses [M]. Beijing: China Construction Industry Press, 2009.
[6] Qin Cai-luan. On the Modernization of the Qanlan Culture of Zhuang Nationality [J]. Journal of Guangxi Institute for Nationalities (Philosophy and Social Sciences), 2010.1
[7] Wu Huimin. Discussion on the Origin of Zhuang GanLan Architecture [J]. Guangxi Ethnic Studies, 2010.9
[8] Wu Zhengguang et al. Southwest Swellings [M]. Beijing: Tsinghua University Press, 2010.5
[9] Xie Hua, Li Hao. Annotation of Zhuang Nationality concentrated Culture [J]. Central China Architecture, 2010.7 Master degree thesis of Xundefinedan University of Architectural Science and Technology
[10] A Brief History of Zhuang Nationality [M]. Nanning: Guangxi people Publishing House, 1980: 119-121.
[11] Zheng Jingwen, Yu Jianlin. Protection and Utilization of Traditional Settlement in Northern Guilin: a Case Study of Pingzhai, Longsheng County, Guilin [J]. Planner, 2006.1
[12] Zhu Wenshuang. Semantics of Architectural Symbols of Ethnic Villages in Northern Guangxi [J], 100 Art Schools, 2013.12.30