

# Spatio-temporal Evolutionary Characteristics and Typological Analysis of Traditional Han Ethnic Villages in Western Sichuan

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**Abstract:** This paper combined document research method, historical cross-section method, and ArcGIS technology to analyze the historical development and current situation of 43 national-level traditional Han ethnic villages in Western Sichuan. It summarized the historical development, types, and spatial distribution characteristics of traditional Han ethnic villages in Western Sichuan. The study found that the traditional Han ethnic villages in Western Sichuan originated in the Pre-Qin period, flourished in the Qin and Han Dynasties, reached their peak in the Ming and Qing Dynasties, and then declined. The main types of village formation are: natural farming, political and military, commercial and transportation, population migration, craftsmanship, and industrial development. The overall spatial distribution shows a polycentric agglomerate distribution pattern of "small aggregation, large dispersion", mainly distributed along rivers, near ancient trade routes, and in areas rich in agricultural resources.

## 1. Introduction

In recent years, the protection and development of traditional villages have received widespread attention from the academic community, and research on traditional villages is heating up. As an important part of China's cultural heritage, traditional Han ethnic villages in Western Sichuan have witnessed the wisdom of the ancient Shu people in selecting sites and layouts along the water and mountains [1]. From the ancient kingdom of Bashu to present-day Sichuan, through the Qin dynasty into Bashu and many migrations, multiple cultures have intersected and grown, and the traditional Han ethnic villages in western Sichuan have nurtured a unique regional culture and recorded the cultural and historical temporal changes of the settlements, which have great research value [2], but due to their remote geographical location and inconvenient transportation, most of the traditional villages have not been paid attention to, and there is a lack of historical data and stagnant development [3].

This paper explored the historical and cultural value of traditional Han ethnic villages in the Western Sichuan region, their development and inheritance characteristics, and conducted in-depth research on the region as a whole to identify the commonalities of inheritance in traditional Han ethnic villages in Western Sichuan. It aims to adopt comprehensive, complete, and continuous protection and development measures for traditional villages, providing a reference for the future revitalization study of traditional villages in Sichuan.

## 2. Basic Overview and Typology Analysis of Traditional Han Ethnic Villages in Western Sichuan

The scope of this research mainly refers to the Western Sichuan Plain (also known as the Chengdu Plain, located between the Longquan, Longmen, and Qionglai mountain ranges, from Anzhou District, Mianyang in the north to Jinkouhe District, Leshan in the south, and including the northern part of the Fujiang Plain between Mianyang, Jiangyou and Anzhou, the central Minjiang Tuojiang Plain, and the southern Qingyi River Daduhe alluvial plain) and some part of the western

border mountainous area.

As of 2019, the total number of administrative villages in China is about 690,000, and traditional villages account for 0.98% of the total number of administrative villages in the country. Sichuan Province has a total of 333 villages (communities) entered into the list of traditional villages in China, accounting for 0.74% of the total number of administrative villages in Sichuan. Within the scope of this research, there are a total of 43 traditional Han ethnic villages in Western Sichuan, accounting for 12.91% of the total number of traditional villages in Sichuan.

Four standards (the clearly recorded village establishment time, the earliest historical relics of traditional villages, archaeological excavation time, and the characteristics of the prosperous period) were used to determine the settlement period and type of traditional villages. This paper also used the historical time cross-section method to divide the settlement periods of the 43 surveyed traditional Han ethnic villages in Western Sichuan into nine time sections based on dynasties: Pre-Qin, Qin and Han, Wei, Jin, Southern and Northern Dynasties, Sui, Tang and Five Dynasties, Song, Liao, Jin, Yuan, Ming, Qing, and the Republic of China [4].

Table 1: Statistics of the number of traditional Han ethnic villages in Western Sichuan by historical period and type

The period of village residence	type						amount to
	Natural farming	Political and military	Trade and transportation	movement of population	manual skill	Industrial construction	
Pre-Qin	1	0	0	0	0	0	1
Qin and Han Dynasties	1	3	3	1	0	0	8
Wei, Jin, Southern and Northern Dynasties	0	0	0	0	0	0	0
Sui, Tang, and Five Dynasties	1	3	2	0	0	0	6
Song, Liao, and Jin Dynasties	0	0	3	0	0	0	3
Yuan Dynasty	1	0	0	0	0	0	1
Ming Dynasty	1	0	2	0	1	0	4
Qing Dynasty	3	0	7	9	0	0	19
Republican China Era	0	0	0	0	0	1	1
Total	8	6	17	10	1	1	43

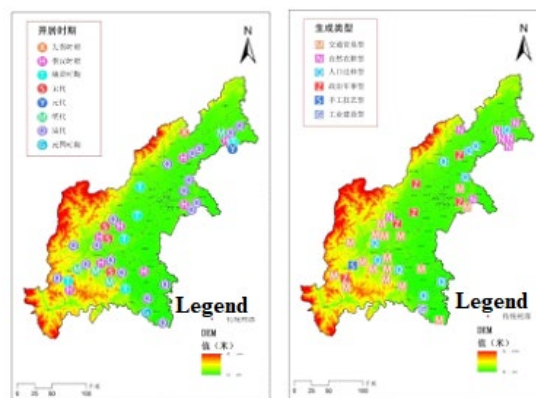


Figure 1: Settlement period and formation type of traditional Han ethnic villages in Western Sichuan

According to the overall situation of the historical evolution of traditional Han ethnic villages in Western Sichuan, the types of traditional Han ethnic villages in Western Sichuan are generally divided into six types: "natural farming", "political and military", "commercial and transportation", "population migration", "craftsmanship", and "industrial development". Through the statistics of the settlement period and formation type of the 43 traditional villages (see Table 1, Figure 1), it is found that the largest number is the commercial and transportation type traditional villages, accounting for

40% of the total number of villages, followed by population migration type traditional villages accounting for 23% of the total number of villages, natural farming type traditional villages accounting for 19% of the total number of villages, and political and military type traditional villages accounting for 14% of the total number of villages. The fewest are the craftsmanship type traditional villages and industrial construction type traditional villages, each accounting for 2% of the total number of villages (see Figure 2).

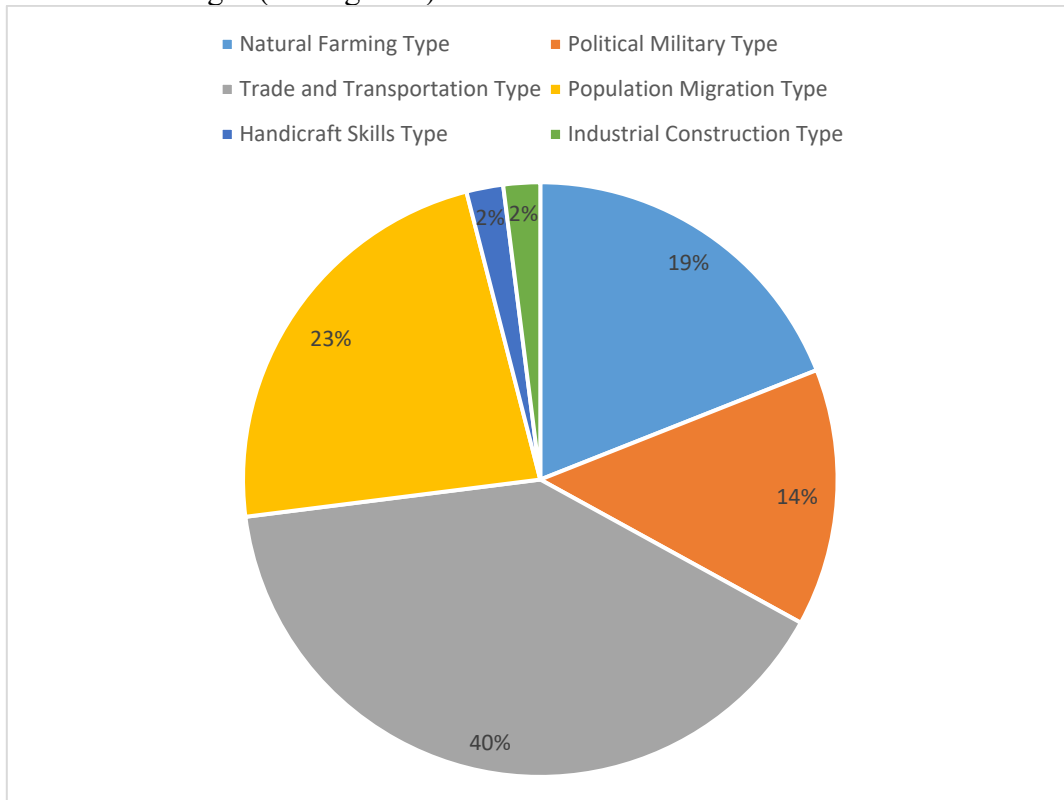


Figure 2: Schematic diagram of the formation background statistics of traditional Han ethnic villages in Western Sichuan

### 3. Historical Development Analysis of Traditional Han Ethnic Villages in Western Sichuan

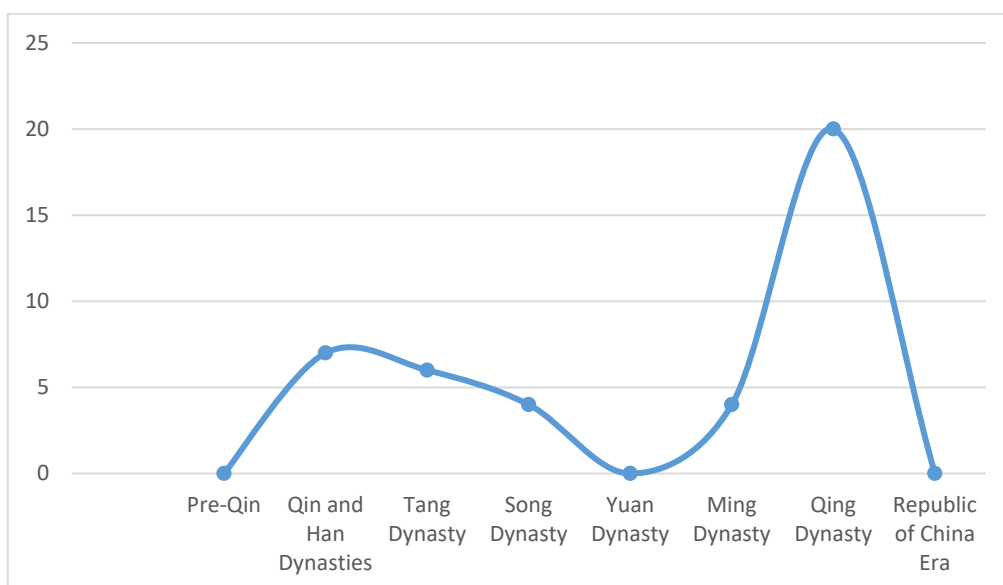


Figure 3: Number of traditional Han ethnic villages established in different periods in the Western Sichuan region

Based on the literature review, the development stages of traditional Han ethnic villages in the

Western Sichuan region can be divided into four phases. The first phase is from the Pre-Qin to the Tang Dynasty, a stage of rapid development for the villages. During this phase, traditional Han ethnic villages in Western Sichuan began to emerge and developed rapidly, with settled villages accounting for 34.9% of the total number of villages. The second phase is from the Tang Dynasty to the Ming Dynasty, a stage of stable growth for the villages. During this phase, the villages developed steadily, with settled villages accounting for 18.6% of the total number of villages. The third phase is the Ming and Qing Dynasties, a peak stage of village development. During this phase, the number of villages grew explosively, with settled villages accounting for 44.2% of the total number of villages. The fourth phase is after the Qing Dynasty, a stage of decline in village development, with settled villages accounting for only 2.3% of the total number of villages (see Figure 3).

### **3.1 Pre-Qin to Tang Dynasty - Rapid Development Stage of Villages**

Early settlements of ancient Shu residents were mostly distributed in the Minjiang River upstream mountainous area [5] (the relatively high terrain in the north, west, and southwest of the plain near the edge of the Western Sichuan Plain), and then gradually moved towards the riverbanks and plains [1]. For example, the research on the Qiang King City ruins still preserved in Hongpai Village, Mianyang, shows that there were traces of human activity here in the Pre-Qin period [6]. During the Pre-Qin and Han periods, the Qiang people lived in the high mountain and gorge areas of the upper reaches of the Minjiang River. The Hongpai Village area was a necessary passage for the Qiang people to reach the inland. The Qiang King City was a military pass built to prevent ethnic conflicts [7]. During the Pre-Qin and Han periods, to facilitate foreign trade exchanges, the South Silk Road focusing on Sichuan was opened. It traversed mountains and ridges from the Western Sichuan Plain and finally reached India. Villages and settlements were formed and developed along the way due to business reasons [8], such as Wujia Village and Minzhu Village in Ya'an.

The Western Sichuan Plain has superior natural conditions, which was suitable for the survival and development of the ancient Shu people. After Qin's rule entered Ba Shu, with the new ideas and technologies brought by the foreign rulers and immigrants, the agricultural farming methods in the Western Sichuan Plain gradually developed from extensive to intensive. The Western Sichuan region became a famous agricultural economic area at the time [9]. For example, the Chengdu Mazu community is located in the Dujiangyan artesian irrigation area in the western Sichuan Plain, where the terrain is flat and the conditions for agricultural production are unique. The rapid development of the agricultural economy prompted cities to continuously expand outwards, driving the reclamation of suburban land, and rural settlements gradually gathered towards these newly reclaimed lands.

### **3.2 Tang Dynasty to Ming Dynasty - Stable Growth Stage of Villages**

With the continuous opening and development of the Southern Silk Road, the Ancient Sichuan Salt Road, and the Ancient Tea-Horse Road, the Tang Dynasty vigorously set up post stations. The establishment of post stations led to the gathering of populations and the formation of villages [10]. For example, the community of Leshan Qinglong and the village of Chengdu Xiange are traditional villages formed during this period of trade. The village of Ya'an Fumin, as the intersection of the Silk Road, the Salt Road and the Tea Horse Road, and an important post station in and out of Shu, has been an important political, military and economic center since the building of the city and county in Tang.

Since the Song Dynasty, handicrafts and commerce such as weaving, well salt and porcelain have been very developed in Shu, such as the village of Ya'an Qixin, which has developed a unique pottery firing technique based on its rich natural resources. At the same time, the dense water network in Shu and the large number of water and land transportation routes generated by commercial trade greatly contributed to the rise of villages along the routes. For example, the village of Hongxing in Meishan, located at the mouth of a river, was an important water dock, which led to the development of commerce, culture and entertainment [11].

### 3.3 Ming and Qing Dynasties - Peak Development Stage of Villages

At the end of the Ming Dynasty and the beginning of the Qing Dynasty, the social economy of Sichuan was severely damaged. "There is arable land in Shu Province, but no people to cultivate it." The Qing Dynasty encouraged people from all provinces to enter Sichuan for cultivation. With the "Huguang Fills Sichuan" policy, the agricultural production in Sichuan gradually recovered, and the population increased rapidly, such as Deyang Ringshi Village, Baima Village, Chuanjiang Village, Hongdou Village, etc.. The rapid population growth drove residential areas to develop towards hilly and mountainous areas, such as Jinxiang Village and Huqiu Village in Chengdu. After the economic recovery of western Sichuan in the Qing Dynasty, merchants gathered and guild houses were established, and most of the villages developed and took shape during this period. Although the community of Laojie in Chengdu Luodai Town originated from the period of the Three Kingdoms and the Han Dynasty, a large number of Hakka immigrated here under the influence of "immigration from Hubei, Hunan and Guangzhou to Sichuan" in the Ming and Qing Dynasties, forming a unique Hakka culture.

Most of the villages are located at convenient locations for water and land transportation. As the population grew and expanded toward the main traffic arteries, large-scale streets, residences, and public activity spaces gradually formed inside [12]. For example, Meishan Xingsheng Community, Leshan Zhengjie Village, and Xinglongli Village were all built along the river in a ribbon layout.

### 3.4 After the Qing Dynasty - Decline Stage of Village Development

In modern times, the social political situation was turbulent, and the "new" and "old" were mixed [13]. The traditional villages in the history of Western Sichuan developed due to advantages such as resources and transportation, and had strong village development vitality. However, entering the mid and late 20th century, with the transformation of production methods, some traditional villages gradually declined due to their backward industries and single functions.

## 4. Spatial Distribution Patterns and Characteristics Analysis of Traditional Han Ethnic Villages in Western Sichuan

### 4.1 The Villages Present a Polycentric Aggregation Distribution Pattern

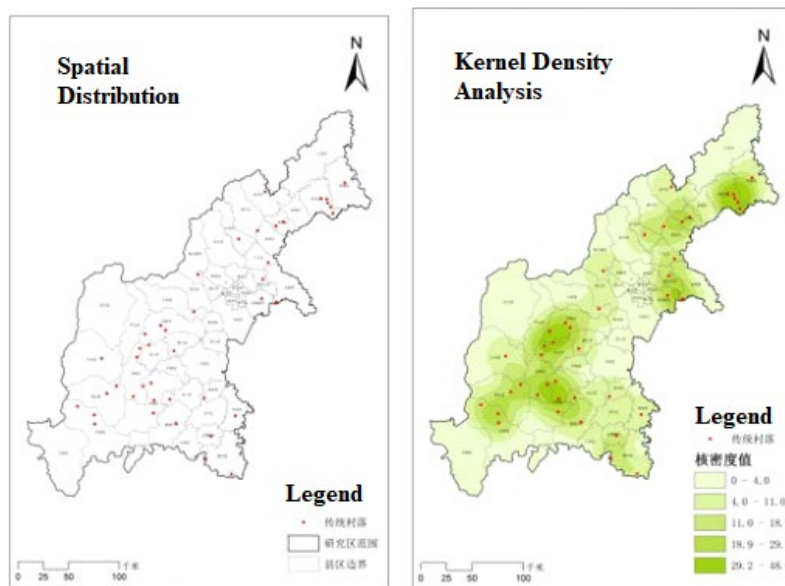


Figure 4: Spatial Distribution and Core Density Analysis of Traditional Han Ethnic Villages in Western Sichuan

When villages are established, they are generally formed by surnames, families, etc., clustering in one area, and then settling and multiplying in this place to form villages[14]. By analyzing the

spatial distribution and relevant characteristics such as the altitude of 43 traditional Han ethnic villages in the Western Sichuan region, we can understand the overall spatial distribution pattern of traditional Han ethnic villages in the Western Sichuan region. It is known from statistics that traditional Han ethnic villages in the Western Sichuan region are mainly distributed in hilly and flat lands, plateau river valleys, and other areas, presenting a "small aggregation, large dispersion" polycentric aggregation distribution pattern (see Figure 4).

According to statistical data, there are 5 villages with an altitude over 1000 meters, accounting for about 12% of the total number; there are 25 villages with an altitude between 500 and 1000 meters, accounting for about 58% of the total number; there are 13 villages with an altitude between 300 and 500 meters, accounting for about 30% of the total number; there are no villages with an altitude below 300 meters (see Figures 5 and 6). It is evident that over 50% of villages are located around an altitude of 500 meters in the hilly mountainous region because this altitude and terrain can provide convenient living conditions for villages, and at the same time, form a relatively enclosed traditional farming environment, thereby allowing traditional villages to preserve and develop.

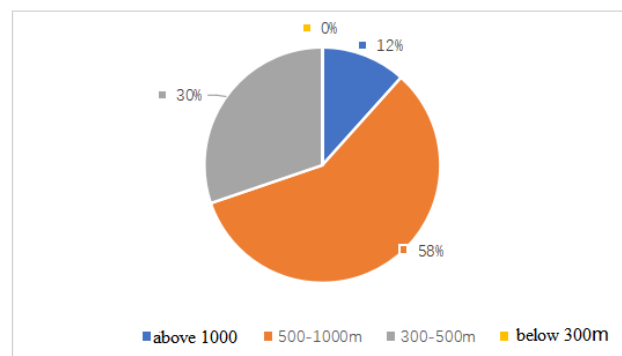


Figure 5: Altitude Distribution Statistical Schematic Diagram of Traditional Han Ethnic Villages in Western Sichuan

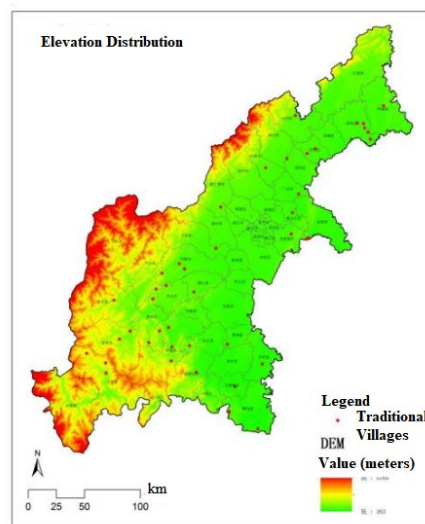


Figure 6: Altitude Distribution of Traditional Han Ethnic Villages in Western Sichuan

## 4.2 Characteristics of Village Spatial Distribution

### 4.2.1 There is a Clear Orientation towards Rivers

Traditional Han ethnic villages in Western Sichuan have a clear tendency to distribute along rivers, mainly distributed in areas near water and easy to develop (see Figure 7). Nearly 80% of the villages surveyed rely on rivers, living along the water. Rivers can not only provide daily living water for traditional villages but also realize functions such as agricultural irrigation and transportation. Influenced by complex geographical conditions, there are different morphological

relationships between villages and water systems, specifically divided into three forms: linear water system, surface water system, and point water system. The linear water system mainly refers to the rivers in the village, forming three forms in the village: "through, adjacent, around"; the surface water system is mostly village ponds, built for the convenience of residents' daily life; the point is mainly wells, which are the smallest water system space in the village. The distribution of different forms of water systems constitutes the unique village water system landscape features in the region.

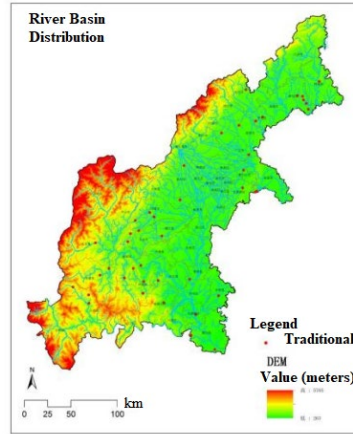


Figure 7: Distribution of Traditional Han Ethnic Villages in Western Sichuan Watersheds

#### 4.2.2 Distributed in Areas Rich in Agricultural Resources

Good natural geographical conditions are the basis for the formation of villages. Areas rich in natural resources such as mountains, rivers, and farmland have always been the first choice for human habitation. Hilly flatlands are fertile and produce many crops, meeting the human need for survival and location selection. For example, Zengjiayan Village in Mianyang, Chuanjiang Village in Deyang, and other natural farming and population migration traditional villages all reflect the excellent site selection of being surrounded by mountains and rivers. In the case of villages selected in the mountains, they will be built on foothills or plateaus, using the flat and fertile land as farmland, thereby ensuring the water supply and drainage, lighting and ventilation, and farming conditions of the village, while also forming a well-arranged village landscape. Such as Jinxiang Village in Chengdu, Hongxing Village in Ya'an, etc. (see Figure 8).



Figure 8: Village Spatial Distribution

#### 4.2.3 Distributed in Areas Near Ancient Trade Routes

Western Sichuan is rich in natural resources, developed in handicraft technology, and bustling with commerce, providing an excellent opportunity for the development of traditional villages centered around trade and transportation. Important commercial routes, such as the Southern Silk Road, the Ancient Tea-Horse Road, and the Sichuan Salt Route, not only facilitated economic and cultural exchanges between the Central Plains and the Tibetan areas but also promoted communication and connections with foreign countries. The traditional villages along these routes are often important checkpoints and post stations. According to the settlement patterns, traditional Han ethnic villages in Western Sichuan can be divided into two types: one is the neighborhood-type villages within the towns, and the other is the freely scattered villages outside the town range (see



Figure 9). The neighborhood-type villages account for about 53% of the total number of villages. Various types of buildings are concentrated and connected in blocks, forming street-like village clusters, such as Hongxing Village in Meishan and Wujia Village in Ya'an, which were once post stations or wharves on important transportation and economic routes. However, with the development of social economy and the shift of road traffic, these villages that prospered due to trade and transportation will also become quiet.



(a) Neighborhood-Type Villages



(b) Freely Scattered Villages

Figure 9: Settlement Patterns of Han Ethnic Traditional Villages in Western Sichuan

## 5. Conclusion

By analyzing the spatial and temporal characteristics of 43 traditional Han ethnic villages in the western Sichuan region, this paper concludes the following:

(1) In terms of the time of settlement, traditional Han ethnic villages in the Western Sichuan region have gone through the stages of sprouting, maturing, and weakening. The villages rose and rapidly developed from the pre-Qin to the Tang Dynasty period; the village development was stable from the Tang to the Ming Dynasty period; the villages experienced explosive growth during the Ming and Qing Dynasties, and the villages gradually declined after the Qing Dynasty.

(2) In terms of evolution types, traditional Han ethnic villages in Western Sichuan originated from agricultural civilization. However, due to several migrations and regional commercial trade development, the main formation types of villages are "natural farming type", "political military type", "commercial and transportation type", "population migration type", "craftsmanship type" and "industrial development type". Among them, the most common are the trade transportation type traditional villages, followed by the population migration traditional villages and the natural farming type traditional villages.

(3) In terms of spatial distribution, the region as a whole presents a "small aggregation, large dispersion" polycentric aggregation distribution pattern; the spatial distribution characteristics of the villages are evident: they tend to distribute along rivers, in areas near ancient trade routes, and in areas rich in agricultural resources.

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