


Article

Development Characteristics and Evolution Mechanism of Homestay Agglomeration in Mogan Mountain, China

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Abstract: The homestay business has contributed to the development of the tourism industry, and it has revitalized tourism resources and boosted the tourism economy. This article takes the Mogan Mountain homestay agglomeration of Yangtze River Delta, the most developed and actively invested in business in the industry, as a research site focus to discuss the recent trends in the Chinese homestay business. Standard deviational ellipse analysis, spatial analysis of nearest-neighbor, and density are empirically tested with the data from the inn/homestay channel of Qunar.com, which is a widely acclaimed website with high page views. Based on the above researches, this paper uses the standard deviation ellipse analysis, the nearest neighbor analysis, and the kernel density estimation analysis method to explore the development characteristics of the Mogan Mountain homestay agglomeration. Combined with the Butler tourist destination life cycle model, it can be concluded that the Mogan Mountain homestay agglomeration area experienced a stage of initial development (2007–2011) and rapid development (2012–2015) and now is in a mature development stage (2016 up to now). This study proposes five actors: physical geographical conditions, traffic location conditions, tourism self-organization mechanism, policy influence, and community residents' willingness to develop and significantly drive the evolution of Mogan Mountain homestay agglomeration. The formation and evolution of the Mogan Mountain homestay agglomeration are the results of the accumulation of resource-driven effect, scale effect, and differentiation effect at different stages. The unique organization and incentive mechanism promote regional sustainable development.

Keywords: Mogan Mountain homestay agglomeration; development characteristics; influencing factor; evolutionary mechanism

1. Introduction

As one of the new forms of tourism, homestay tourism has attracted more and more attention. Homestay is not only an attraction and integral part of the tourist destination but also an important support for the sustainable development of the tourism community. The agglomeration of the homestay areas has a significant driving effect on the development of regional rural areas and the increase of the income of the community residents. A completely new form of tourism products has been developed mainly through the cultivation of farmers' tourism management ability and the integration of rural idle space, agricultural products, and surplus labor. It is an important scientific proposition to adapt to

the development of the new tourism industry, meet the needs of theoretical research by exploring the development characteristics and evolution mechanism of the homestay agglomeration area, and reveal the general laws of the sustainable development of this type of tourist destination area.

Scholars all over the world have made in-depth investigations on this field. Previous research on homestay have mainly focused on homestay marketing [1–5], homestay operators [6,7], motivation and satisfaction of homestay guests [8–10], the influencing factors of the development of homestay [11–13], and management of homestay [14–18]. Differently, the studies in China mostly relate to the definition and classification, planning and design, management, resource evaluation, and guarantee mechanism. However, the absence of studies on the layout of homestay leads to research gap about Chinese homestay. The countries and areas with long development periods, especially Japan and Taiwan, have relatively mature modes and provide experiences for China. Industrial space agglomeration refers to the dynamic process of the geographical concentration of the same industry within a certain geographical area and the continuous integration of industrial capital elements in the spatial scope [19]. Travel industrial concentration, as a strategic measure to develop regional tourism, could effectively provide guidance for tourism development. Homestay business, being a major factor in tourism industry, has emerged in China in recent years and displays strong characteristics of spatial agglomeration. Zhou Qiong pointed out that the homestay business in Taiwan shares strong spatial agglomeration characteristics with mature homestay villages or homestay groups [20]. Xiong Guoming explored homestay agglomeration's internal problems in his study of homestay agglomeration development at the view of supply chain [21]; among others, Chen Jiajie took Zhejiang province as an example, analyzed influential factors in building rural tourism destination brands, as well as homestay agglomeration's influence on brand image [22]; Li qian and others conducted classification on homestay industrial agglomeration according to its developing situation in Chengde [23]. Practice has been ahead of theory regarding Chinese domestic homestay development, which means that there is rarely any research related to its distributional situation and structure. Rural revitalization has become the national strategy of China, and the flourishing development of Chinese homestay has become one of the important modes responsible for rural revitalization in China during the new period. Zhejiang Province, Yunnan Province, Fujian Province, Guangdong Province, and other places, through the development of featured homestay industry, promote the upgrading of rural tourism industry. A large number of supporting industries are derived from homestay to form an industrial ecological system due to the agglomeration and development of homestay. The development of homestay, thus, is beneficial to the revival and rejuvenation of rural culture and the protection and improvement of the rural ecological environment [24]. The study of tourism destination governance has been widely concerned by scholars. Governance paradigm is also promoting the optimization of domestic and foreign tourism destination management model in practice [25–27]. China's homestay has borrowed from the development models of Japan and Taiwan to a certain extent, but it has formed Chinese characteristics in practice. The Moganshan homestay agglomeration is the most typical representative of the development model of China's homestay. Therefore, this study focuses on analyzing homestay agglomeration development motivation and the formation mechanism and influencing factors of the agglomeration area, to better guide the development and theoretical research of the homestay industry, which is a new theoretical contribution point.

Based on the above research, this paper uses the standard deviation ellipse analysis, the nearest neighbor analysis, and the kernel density estimation analysis method to explore the development characteristics of the Mogan Mountain homestay agglomeration and study its evolution mechanism, respectively, from the driving factors and effects. Finally, this paper summarizes the development characteristics and evolution mechanism of the Mogan Mountain homestay agglomeration, which provides a scientific reference for the theoretical research and practical development of the subject.

2. Research Area, Data Sources, and Study Methods

2.1. Research Area

“2016 Research Report of Homestay” [28] pointed out that Chinese homestay business had been showing a strong pattern of agglomeration. Generally speaking, Chinese domestic homestays can be divided into 10 agglomerations: Northwest Yunnan homestay agglomeration, Sichuan-Tibet Railway homestay agglomeration, Yangtze River Delta homestay agglomeration, Hui-Cultural Circle homestay agglomeration, Southeast Fujian homestay agglomeration, Pearl River Delta homestay agglomeration, Hunan-Guizhou-Guangxi homestay agglomeration, Beijing-Tianjin-Hebei homestay agglomeration, Hainan homestay agglomeration, and Taiwan homestay agglomeration (Figure 1).

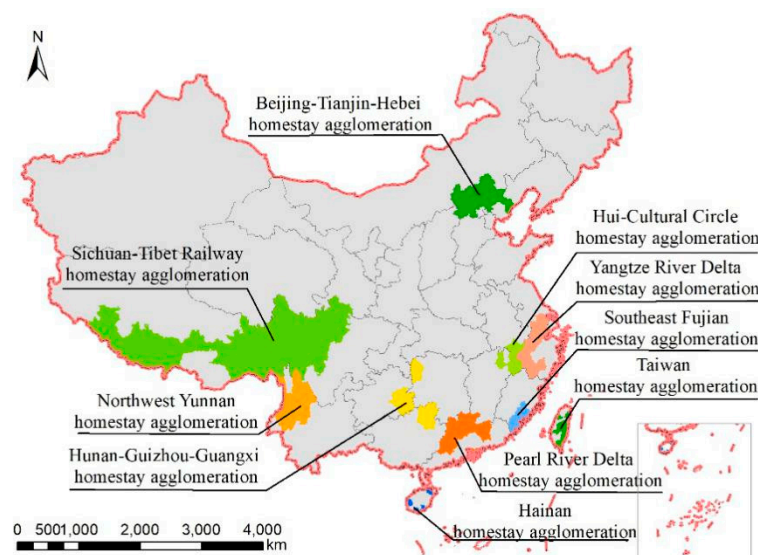


Figure 1. 10 homestay agglomerations in China.

Mogan Mountain homestay agglomeration is located in the town of Moganshan under jurisdiction of Deqing County, Huzhou City, Zhejiang Province. The town is sitting on Hangjiahu Plain of Yangtze River Delta, located in the west of Deqing County near national scenic area Mogan Mountain, which is part of the extension of West Tianmu Mountain, and covering an area of 185.77 square kilometers.

According to Huzhou government's statistics, in 2017 Deqing County hosted 6.583 million tourists in rural areas, especially by homestay, and increased by 17.9% compared with previous year. It achieved direct income of 2.27 billion Yuan, an increase of 36.7%. According to Huzhou Government's website [29], there had been 449 operating homestays by June 2017 in whole city, with 433 of them located in Mogan Mountain (a significant proportion—96.4%). Another 90 were preparing to open. Moreover, a large number of homestays spatially distributed in Mogan Mountain stimulated the development of their upstream and downstream industries simultaneously.

In international comparison, the homestays in China have following characteristics: high density, centralized layout of high-end homestay, large scale of investment, good supporting services, and brand effect highlights [30], which may be caused by the rapidly increased but not sufficiently developed economic status, and gradually addressed but not completely advantageous experiential tourism. Hence, the studies about Chinese homestays absolutely contribute to the development whole homestay industry, especially for undeveloped and developing countries and regions like China. In terms of Chinese domestic situations, a lot of homestays have emerged; along with the development of rural tourism and community-based tourism, local residents and amenity migrants have been devoted to tourism industry for economic benefits and regional progress by operating businesses like homestays. It is undeniable that Mogan Mountain homestay agglomeration area in the Yangtze River Delta, as the

most developed and most active example in China [22], could be regarded as a classic case for academic study. It not only witnessed the development process of Chinese rural homestay but also attracted a multitude of residents' homestay operators for visiting and learning [30]. Because of abundant investments, unique regional features, original local culture and development model, and the huge and developed tourist market of Yangtze River Delta [31], it has achieved gratifying success in recent years. As previously mentioned, the Mogan Mountain homestay agglomeration area is a typical model of constructing theories and exploring practices for the whole homestay industry, at home or abroad, which is also the reason that this paper takes it as a research case.

2.2. Data Sources and Processing

The data of Mogan Mountain homestay agglomeration came from the inn/homestay channel of Qunar.com, a welcomed and praised website in the industry. 539 Mogan Mountain homestays' information, including name, location, opening date, etc. Through the geographic coordinate conversion software, the latitude and longitude coordinate information needed by Arc GIS software is transformed to form the basic database of this paper, and the spatial and temporal distribution characteristics of the Mogan Mountain homestay agglomeration are analyzed.

2.3. Research Methods

2.3.1. Standard Deviation Ellipse Analysis

The standard deviation ellipse can be used to quantitatively explain the centrality, directionality, and spatial shape of the spatial distribution of geographic elements from a global and spatial perspectives [32]. The method of standard deviation ellipse analysis aims to measure the trend of a set of points or areas by calculating the standard distances separately in the X and Y directions. The elliptic curves formed by two numerical values of standard distances have elements in different quantities due to diverse research purposes and scales. According to the area of the elliptic curve, and the x-axis, the standard distances and rotation angles of x-axis and y-axis, the information about research object such as the center trend, the degree of aggregation, and the direction trend can be observed. The smaller area it covers, or the shorter standard distance it has, the stronger agglomeration tendency it expresses, and vice versa.

$$SDE_X = \sqrt{\sum_{i=1}^n (x_i - \bar{x})^2 / n}; SDE_Y = \sqrt{\sum_{i=1}^n (y_i - \bar{y})^2 / n} \quad (1)$$

x_i, y_i represents the coordinates of element i , (\bar{x}, \bar{y}) represents its average center, and n represents the number of dots.

2.3.2. Nearest Neighbor Analysis

Stephen L.J. Smith, a famous tourist scholar in Canada, pointed out that nearest neighbor point analysis is an accurate and objective method with which to determine the attribute of distribution pattern [33]. The distribution of elements in a space has three conditions: dispersed, randomly distributed, and clustered. It can be distinguished by nearest neighbor analysis and the formula can be written as follows:

$$R_n = \frac{\bar{d}}{R_E} \quad (2)$$

$$\bar{d} = \frac{\sum d}{n} \quad (3)$$

$$R_E = \frac{1}{2\sqrt{n/A}} \quad (4)$$

R_n represents nearest neighbor ratio, d is the distance of a spot to its nearest neighbor, R_E is the nearest distance in theory, \bar{d} is the average linear distance between spots, A represents the area of

a region; and n is the number of spots in an area. When $Rn > 1$, the spots in the area are dispersed. The theoretical maximum of Rn is approximately 2.15 where all spots are distributed in a balanced hexagon. When $Rn = 1$, the spots are randomly distributed. When $0 < Rn < 1$, the spots are distributed in agglomeration, and when $Rn = 0$ they are at a complete agglomeration state.

Z-value is the significance of R 's standard deviation, and the calculation formula is as follows:

$$Z = \frac{d_i - d_0}{\partial d_0} \quad (5)$$

$$\partial d_0 = \frac{0.26136}{\sqrt{N^2/A}} \quad (6)$$

2.3.3. Kernel Density Estimation

The kernel density analysis method is widely used in the analysis of the spatial distribution characteristics and the spatial distribution patterns of the elements, which is helpful for reflecting the spatial distribution characteristics of the elements [34]. This article mainly uses ArcGIS Geographical analysis technology to conduct visual spatial analysis on statistical data and thus to explore the spatial distributional characteristic of regional homestay industrial agglomeration. Density analysis calculates data cluster status according to its input. Through density analysis, spots or lines that are being measured can be turned into consecutive surfaces that are beneficial for identifying any agglomerations within the area. Particularly, ArcGIS's Kernel Density Estimation (KDE) analysis, which presents calculating results smoothly based on spots' weight in searching area.

$$\hat{f}(x) = \frac{1}{nh^d} \sum_{i=1}^n K\left[\frac{h}{h}(x - x_i)\right] \quad (7)$$

$K[\]$ is Kernel function, h is strip width, n is the number of spots within the strip, and d is the dimension of data.

3. Development Characteristics Analysis

Mogan Mountain is the core attraction of Deqing County tourism. Moganshan town accounts for 96.4% of the total number of homestays in Deqing County. By analyzing the growth of tourist quantity and tourism income from 2007 to 2017 in Deqing County, Figure 2 reflects the tourism development of Mogan Mountain homestay agglomeration to some extent.

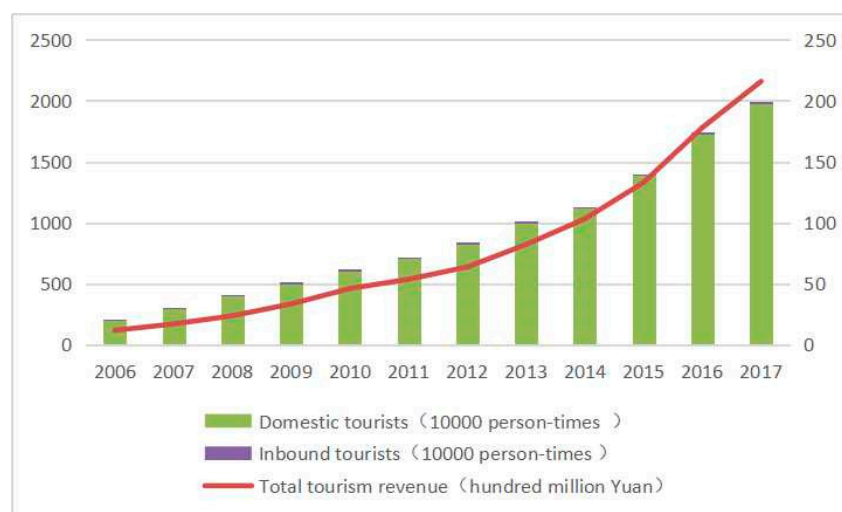


Figure 2. Tourist reception in Deqing County from 2007–2017.

Mogan Mountain's first homestay, as the beginning of homestay development, was built in 2007. In 2012, Mogan Mountain foreign guesthouses appeared twice in the New York Times and other major foreign media; then, Foreign Guesthouses Association was founded, and the Mogan Mountain homestay began to develop rapidly. In 2015, according to the Moganshan Town Tourism Office, the number of Mogan Mountain homestays soared to 426 by 2015 with a significant increase of more than 129%. Therefore, the years of 2012, 2015, and 2018 are selected as three important development nodes. Making a comparison among three ellipses' area (Figure 3, Table 1), it can be found that the area at first shrank and then enlarged, which means the homestays are agglomerating and spreading as the same time. The ellipse's central point, however, basically remains unchanged in Mogan Mountain scenic area. The development of Mogan Mountain homestay agglomeration has typical characteristics of agglomeration and diffusion.

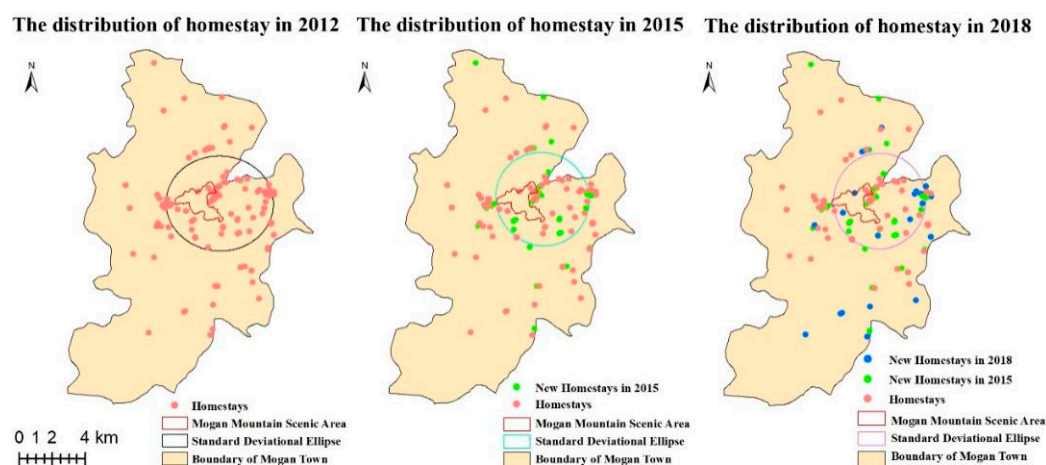


Figure 3. The distribution of homestay in 2012, 2015, and 2018.

Table 1. Standard deviational ellipse & chart of 2012, 2015, and 2018.

	Shape_Area	CenterX	CenterY	Rotation
2012	29755861.50	1414077.50	3908551.39	92.29
2015	25533781.79	1414142.40	3908815.42	134.17
2018	25691304.56	1414267.60	3908807.21	8.80

According to the time nodes of Mogan Mountain homestay tourism development, combined with the statistical data of tourism development in Deqing County from 2007 to 2017, the stages of development are divided into three stages from the angle of reflecting the development trend of Mogan Mountain homestay agglomeration. Combining with Butler tourist destination life cycle model [35], it can be concluded that Mogan Mountain homestay agglomeration area experienced the stage of initial development and rapid development and now is in the mature development stage (Table 2).

Table 2. Mogan Mountain homestay agglomeration Development Stage.

Development Stage	Butler Tourist Destination Life Cycle Model	Homestay Agglomeration Development Characteristics	Main Development Signs	Number of Homestays in the End of Stage
Initial stage (2007–2011)	The number of tourists increased, tourism activities became organized and regular, local residents provided some simple accommodation facilities for tourists, and local governments were forced to improve facilities and traffic conditions.	The number of homestays was small, foreign guesthouses were booming, and external investment was the mainstay.	The first foreign guesthouse “Nakedheart Valley” was born.	150
Rapid growing stage (2012–2015).	Tourism advertising increased, the tourism market begun to form, foreign investment increased sharply, and simple accommodation facilities were gradually replaced by large-scale and modern facilities. The appearance of tourist sites changed greatly.	Homestays clustered within Mogan Mountain Scenic Area. The annual growth of homestay remained at 10%–20%. Mogan Mountain homestay industry started became high-quality and high-end. Locals and foreigners invested in the homestays.	The Foreign Guesthouses Association was founded. The government also realized the importance of the homestay industry and issued policies to actively encourage the development of homestay.	426
Mature stage (2016–present)	The number of tourists continues to increase but the growth rate declines. The function area of the tourist area is obvious. Local economic activities are closely linked to tourism. Residents have begun to resent and become dissatisfied with tourism.	Besides gathering in Moganshan Town, homestays begin to spread to other areas. The number of homestays continues to grow, the investment in the homestay continues to increase, the supporting facilities are perfect, and the homestay industry has become a local pillar industry.	In 2016, the tax paid by the homestays accounted for 34.5% of the local fiscal revenue of Moganshan Town, which became an important part of local fiscal revenue.	539

3.1. Initial Stage

Initial stage of homestay agglomeration (2007–2011). Before 2007, Moganshan town was a farming community relying on bamboo, tea, and orchards as the main source of residents’ income. In 2007, a South African called Gao Tiancheng was attracted by Sanjiuwu’s natural environment during his trip in Mogan Mountain. He unhesitatingly rented some local farmers’ vacant houses and decorated them in a low-carbon and environmental-friendly concept, keeping their original structures and not violating their overall styles. Then, the “Nakedheart Valley” was born and attracted a lot of tourists. The main model is that foreigners rent local farmers’ houses, transform old houses, and reflect the American rural style, which is different from the “Nongjiale” opened by the local people. Foreign guesthouses create a unique rural vacation mode by being committed to exploiting high-end market and building ecological environment. Encouraged by Gao Tiancheng, more businessmen from Sweden, Korea, Netherlands, Spain, UK, France, and Shanghai successively came here to rent houses and operate homestays. The local government set up a special service group for foreign leisure and vacation projects in the west of Deqing County to strengthen the guidance and services for the development of residential accommodation and to explore diversified investment forms and management methods. The initial stage was dominated by external investors. Local villagers mainly rented houses, worked in foreign guesthouses, and sold agricultural and sideline products to participate in homestay development. The rise of foreign guesthouses in Mogan Mountain is the main characteristic of its initial development.

3.2. Rapid Growing Stage

Rapid growing stage of homestay agglomeration (2012–2015). Rapid growing stage of homestay agglomeration development (2012–2015). With the successful model of foreign guesthouse in Mogan Mountain, locals and foreigners flocked in and invested in homestay industry. A nearest

neighbor analysis concluded that homestays in Moganshan town were distributed in agglomerations. The z-score and p -value were 30.6114 and 0.00, respectively, which indicated high concentration (Figure 4). Homestays in Moganshan town were mainly distributed in clusters around Mogan Mountain scenic area (Figure 5). The annual growth rate of homestay in Yangtze River Delta remained at 10–20%. Mogan Mountain homestay industry became high-quality and high-end. It was the emergence of high-end homestays like Xipo and Dalezhiye that showed that the products of homestays in Mogan Mountain were diversifying. Specifically, there were 59 high-end homestays with an average room price above 1000 Yuan at that time. At this stage, the government, from the national level to the local level, realized the importance of the homestay industry and issued policies to actively encourage the development of homestays. At the beginning of 2014, Deqing County government issued “Administration Measures on Deqing County Homestay (trial)”, which was the first policy promulgated by local government to supervise the rapidly growing homestay industry. The “Administration Measure” stressed details, such as homestay building standard, fire control accessory, sanitation, and environment. Government’s action caused this industry to grow rapidly. In 2015, the “Guiding Opinions of the General Office of the State Council on Accelerating the Development of Life Services to Promote the Upgrading of Consumption Structures” clearly stated that “actively develop homestay inns, short-term rental apartments, long-term rental apartments and other subdivisions”. The government’s homeopathic guidance has contributed to the rapid development of the industry.

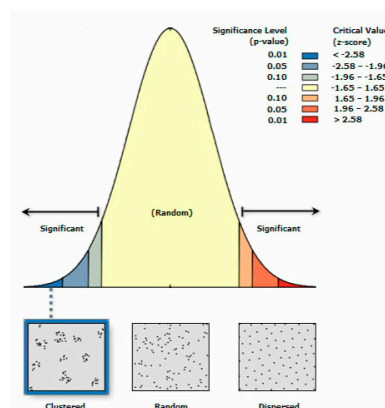


Figure 4. Spatial patterns of Moganshan Mountain homestay agglomeration.

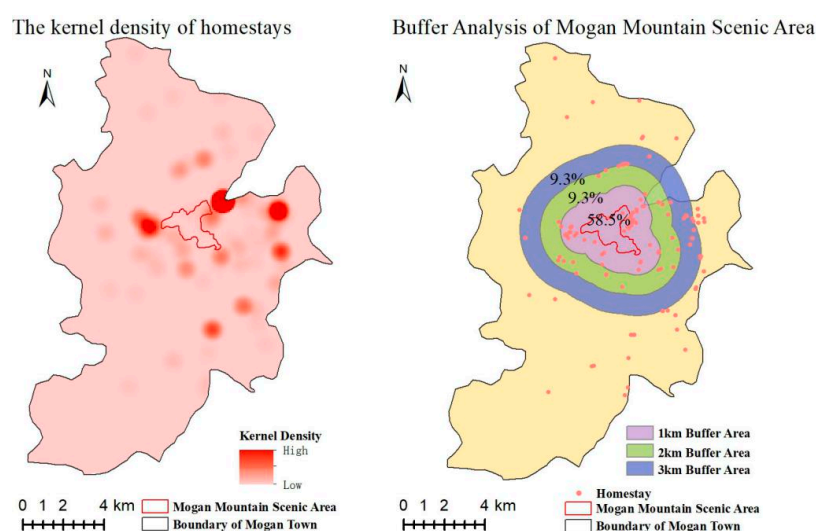


Figure 5. Buffer area analysis of Moganshan Mountain Scenic Area.

3.3. Mature Stage

Mature stage of homestay agglomeration development (2016–present). Mogan Mountain homestay economy welcomes its mature period. 77.1% homestays clustered within Mogan Mountain Scenic Area 3 km buffer area. Besides gathering in Moganshan Town, homestays tend to spread to other areas around the Mogan Mountain scenic spot. Mogan Mountain homestay brand influence continues to expand. The formation of homestay agglomeration is based on the local characteristics of the environment, in the basic style of the tone set of rural buildings, to meet the needs of tourists food, housing, travel, shopping, and entertainment aspects of the facilities; these scales and the unified construction will form the unique style and characteristic of the overall environment in the homestay agglomeration, thus promoting rural tourism destinations to form brands and images with local characteristics [22]. Another outstanding characteristic is the change of managerial subject, which means that a growing number of homestays in Mogan Mountain are managed by professional teams instead of individuals. The reform of traditional management contributes to the prosperity of chain brands. Mogan Mountain homestay agglomeration has become the benchmark of the country and is starting to experience output, management output, and brand output [22]. Correspondingly, the number of homestays and the amount of investment are experiencing sustained and rapid increase. In 2016, Moganshan town homestays paid a total of 20 million Yuan as tax payment, accounting for 97.3% of the taxes paid by Deqing County homestays. The tax paid by the homestays accounted for 34.5% of the local fiscal revenue of Moganshan Town, which became an important part of local fiscal revenue [36]. Homestay industry brings new development opportunities for local finance, transport, catering, construction, and special agricultural products. It is homestay tourism industry that has become local pillar industry and caused the successful transformation of local economy.

4. Analysis of the Evolution Mechanism of the Mogan Mountain Homestay Agglomeration

4.1. Driving Factors Analyses

4.1.1. Physical Geography Factor

Measured by latitude, Mogan Mountain homestay agglomeration is in the north part of subtropical zone. The Moganshan County is comprised of 70% percent of mountain, 10% of water, and 20% farms. It is a typical mountainous town with 68.2% green coverage rate. Homestays in the county are mountainous type, and this physical geography factor has a significant influence on its homestay's layout (Figure 6).

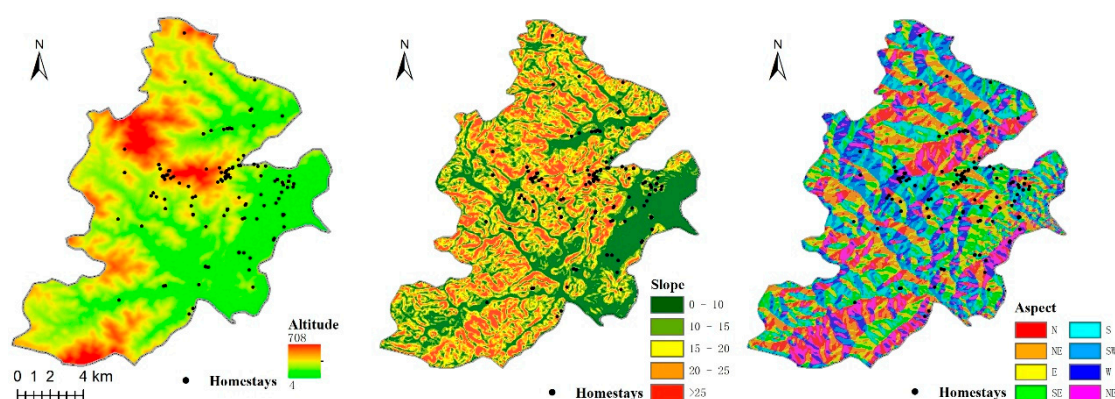


Figure 6. Physical geography factor.

(1) Height factor analysis

DEM digital model is used to generate Moganshan County homestay's height data and, accordingly, conduct comparative analysis. The result shows that 89% of homestays are distributed in the height of 0–350 m; only 11% are distributed in 350–550 m. There exists an obvious negative correlation between the distribution of homestays and the elevation of Moganshan County, which means that most of homestays are clustered in lower elevation regions (0–350 m). The higher elevation is, the fewer homestays are distributed. Because of transformation from local vacant houses, homestays at low altitude are easier to acquire in terms of production and living resources and are convenient for homestay owners and customers.

(2) Slope direction factor analysis

Slope direction has the largest influence on mountainous ecological environments like plains, hills, mountains, and plateaus. It affects both received solar radiation and sunshine duration. Slope has a major influence on the sunlight of homestay's region. China is located in the northern hemisphere and has been reclassified according to different directions as north slope (0–224, 336.6–359.1), northeast slope (22.442–44.8, 314.2–336.6), east slope (44.8–67.7, 291.7–314.2), southeast slope (67.7–89.773, 269.3–291.7), south slope (89.773–112.2, 246.8–269.3), southwest slope (112.2–134.6, 224.4–246.8), west slope (134.6–157.1, 201.9–224.4), and northwest slope (157.1–179.5, 179.5–201.9). China's regular sunlight condition data are acquired based on above information.

The slope directions of homestays in Mogan Mountain are drawn by ArcGIS software based on DEM data. In terms of Moganshan County homestay's distribution situation, the results are as follow (Figure 6): north slope comprise 2.6% of homestays, northeast slope 11.1%, east slope 5.5%, southeast slope 9.8%, south slope 3.6%, southwest slope 54%, west slope 7.5%, and northwest slope 5.9%. Zhejiang Province is located in northern hemisphere's medium-low latitude monsoon region, whose slope direction has distinct controlling effect on precipitation and sunlight. Warm and wet current of air comes from the southwest and southeast, causing abundant rainfall on southern slope. Meanwhile, southern slope has larger sunlight angle and longer sunlight time. However, other factors like layout and formation of villages may play more important influence on the distribution of homestays, so that the limitation of slope direction is obvious.

(3) Slope angle

Distribution map of slope angle is also formulated with DEM data, and the number of homestays in different ranges is extracted at the interval of 3° (Figure 6). It has been found that Mogan Mountain's homestays are mainly distributed within the range of 0–34.4699°. According to slope angle's classification index, 5 levels are divided: flat slope (0–3°), gentle slope (3–10°), medium slope (10–25°), heavy slope (25–50°), and steep slope (>50°). Specific to Mogan Mountain, 22.1% of homestays are distributed in 0–10.2384°, 60.8% are distributed in 10.2580–18.0085°, and 17.1% are distributed in 20.0105–34.4699°. This shows that Mogan Mountain's homestays are intimately related to slope angle factor, and the number of homestays decreasing with the rise of slope angle. Thus, the mountain-type homestays range in slope angle from 0° to 18°.

4.1.2. Geographical Location Factor

Mogan Mountain homestay agglomeration is located in the center of the Yangtze River Delta, lying 60 km northwest of Hangzhou and 200 km southwest of Shanghai. The Yangtze River Delta urban agglomeration is one of six world-class urban agglomerations, where identical culture and integrated economy contribute to regional development (Figure 7). In 2017, the number of tourists in the Yangtze River Delta region was 1.706 billion Yuan, and the income from tourism was 254.767 billion Yuan, accounting for 47.05% of the total Chinese tourism revenue. Tourism income-developed areas have ample sources of tourists, and the strong tourism income proves the strong consumption power

of tourists, and the area where this is located has become a hot spot for the development of homestay tourism. In 2017, the per capita disposable income of residents in the Yangtze River Delta region reached 45,352.58 Yuan, ranking first in China. The higher disposable income of military and civilians is the basic condition for stimulating the tourism motive of homestays, thus laying a good economic foundation for the development of the Mogan Mountain homestay agglomeration. The improvement of the level of accessibility has profoundly affected prosperity and regional tourism. The level of traffic integration at the regional level in the Yangtze River Delta is high [37]. With the gradual improvement of expressways and railways, the traffic accessibility and convenience of the Mogan Mountain homestay agglomeration are increasing day by day; this has caused the homestays to become increasingly concentrated in Moganshan town and created a dissimilar layout for the agglomeration area and the non-aggregation area.

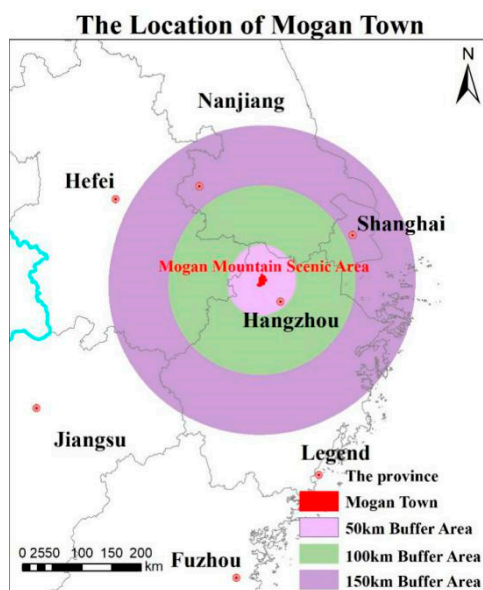


Figure 7. The location of Mogan Town.

4.1.3. Self-Organization Mechanism of Tourism Industry

The process of formation and evolution of the tourism industry cluster is a self-organizing and organized process. The accumulation of tourism industry follows the rules of self-selection, self-evolution, fluctuation, feedback, and nonlinear development and evolution [38]. The tourism industry chain in Moganshan town is based on the homestay tourism products. From the perspective of the whole process, different industries that provide homestay tourism products compose a chain structure, which results from the fact that from the beginning to the end of the tour, visitors need many industrial sectors to provide products and services to meet their various needs. Specifically, besides core tourism companies and departments, such as travel agencies, transportation departments, restaurants, hotels, scenic spots, tourist shops, coaches, and related recreational facilities, it also relates to agriculture, gardening, construction, finance, insurance, communications, advertising media, government and associations, and other auxiliary industries. In addition to the basic premises for the transformation of rural houses, Mogan Mountain homestay has many tea plantations, orchards, vegetable fields, and other crop planting bases. It not only provides fresh fruits and vegetables to homestays, it serves as a place for visitors to pick and experience fruits and vegetables, enriching the types of Mogan shanty town leisure activities. Mogan Mountain homestay exerts its brand benefits. Mogan Mountain homestay is not confined to meeting the needs of the tourists; it provides professional courses, training, and exchanges for homestay operators across the country to extend the property chain. Moganshan town villagers are driven by the market and the government, whether actively

or passively involved in the homestay industry. However, at least from the reaction and results of the action, the interaction between local people and resources has been activated, and the active participation of local villagers has been stimulated. Hence, the formation of a local self-organizing network has, to some extent, achieved sustainable development in local rural areas.

4.1.4. Government Factor

Besides making progress in marketization, government's guidance and management have always played an important role in the development of homestays in Mogan Mountain. The current destination local government is changing the administration mode. Partnerships between the public, private, and voluntary sectors are increasingly being used to raise competition through this new model of governance [39]. The government's actions within the Moganshan township focus on both beautifying the environment and optimizing the layout. The ecological environment is the basis for the survival of the Mogan Mountain homestay and the development of the tourism industry, so measures related to ecological protection have been implemented. More than 7 single-family houses in Moganshan town must be equipped with independent sewage treatment equipment. The government has invested nearly 70 million Yuan to shut down various polluting enterprises in Moganshan town. At the beginning of 2014, Deqing County government issued "Administration Measures on Deqing County Homestay (trial)", which is the first policy promulgated by local government to supervise the rapidly growing homestay industry. In 2015, "State Council General Office's guidance on accelerating the development of service industry to promote the upgrading of consumption structure" was clearly suggested to "actively develop inn and homestay, short rental apartments and long rental apartments to meet the consumption needs of people". In 2016, Zhejiang People's Government issued "guidance on the determination of the range and conditions of homestay", providing laws to abide by and rules to follow in homestay's operation. The role of the main actors involved in governance and the degree to which the governance process promotes tourism competitiveness are different in different historical stages. Therefore, innovative policies should be strengthened to enhance destination competitiveness [40]. During the process of guidance and management, government's role has been transformed from a monitor to a leader, guiding the industry's structure and utilizing rural land and labor resources to promote the rapid progress of Mogan Mountain homestay industry. Strengthening destination governance can increase the benefits of poverty alleviation in tourism and promote sustainable development [41].

4.1.5. Willingness of Community Residents to Develop

As an entry point for community building of the Mogan Mountain homestay, the homestay industry began with the actions of external capital and the government. External forces dominated the entire local industry at the beginning of development of Mogan Mountain homestay agglomeration, whose main body is composed of enterprises, external investors, and local villagers. After homestay development achieved initial results, local residents were activated by abundant economic benefits and effective management modes and began to intervene in and activate local forces. The spontaneous actions of the villagers are the key to the transformation of homestay industry from external support to internal development. Villagers set up homestay alliances, take part in public services, and promote local "bamboo" and "tea" characteristics, which are helpful for promoting competitiveness, realizing development and progress within the community and creating profit spaces for external capitals [42]. This has opened a new path for rural construction and formed a model for interaction among market, government, and community.

4.2. Analysis of the Mechanism of Action

Mogan Mountain homestay agglomeration has the following characteristics: firstly, each homestay in the agglomeration is in a small scale with a few employees; secondly, homestay operation in this agglomeration highly relies on local geography; furthermore, every homestay supplier shares

similar target customers, which causes fierce competition; finally, homestays in this region are closely cooperating in marketing, all depending on Mogan Mountain homestay brand's integral advantage. Mogan Mountain's homestays are market-oriented and seek to multi-type operating mode based on homestay and leisure pattern in future development.

4.2.1. Resource Driven Effect

High-quality natural resources and cultural details are the initial motive forces for the formation of homestay agglomeration. Mogan Mountain homestay agglomeration could not have developed without the radiation effect of famous Mogan Mountain scenic area, which is certified as national 4A's scenic area. It is noted in the world for its "three wonders": bamboo, cloud, and spring, as well as its "four merits": pureness, quietness, greenness, and coolness. Additionally, its climate is suitable for a summer resort or health resort. Mogan Mountain, furthermore, preserves a lot of poetry carving, stone carving, and over 200 different and unique villas built by famous people, so that it has earned a reputation as "Museum of World's Modern Architecture", whose sightseeing value is high. For one thing, Mogan Mountain scenic area, as a vital tourism attraction, could accommodate abundant tourists. For another, the unique local culture, including food, dwellings, and customs displayed by homestays, enriches the attraction of Mogan Mountain.

4.2.2. Scale Effect

There is a relationship between competition and cooperation among the enterprises in the residential agglomeration area. The size of single homestay is small, and the number of rooms generally ranges from 3 to 15. It is difficult to receive large numbers of tourists. In the agglomeration, after having a certain number of homestays, the scale of the reception capacity can be increased, and, at the same time, the homestays can be further attracted to enter. The ability of single homestay to attract customers through its own brand is very weak. Through the external scale effect, the regional brand of the entire homestay agglomeration in the tourism market can be formed, the influence can be expanded, and the transaction cost and transaction risk of individual homestays and tourists can be reduced. The regional brand effect will increase the income of each homestay owners. The life cycle of a single homestay may not be long; there will be a risk of survival of the fittest, but after the brand is formed in the whole agglomeration, the brand effect is relatively long-lasting, which will drive the linkage development of the homestay enterprises in the area and create a competitive advantage in the market and form a rural tourism development. Due to the large number of companies of the same type, the upstream and downstream manufacturers and institutions and related professionals in the supply chain such as cloth cleaning, house cleaning, and advertising planning have gathered. In the agglomeration, the division of labor is specialized, information exchange and dissemination are smooth, labor resources are shared, and the construction costs and operating costs of the hotel are reduced. Relevant suppliers and intermediaries in the industrial chain can more easily access market opportunities and reduce the time and money spent searching for business information. Industrial agglomeration promotes the specialized development of human resources, improves the efficiency of human resources, and saves the cost of human resources. The reduction of transaction cost in the whole region greatly increases the competitiveness of Mogan Mountain homestay agglomeration.

4.2.3. Differentiation Effect

The Mogan Mountain homestay agglomeration is based on the resource-driven effect, which forms the scale effect of residential industry, and the differentiation effect gradually appears. After the formation of Mogan Mountain homestay agglomeration, the ecological environment was further improved, a large amount of supporting infrastructure was increased, and the level of public services was further improved, which attracted more homestay investments. Leisure agriculture, architectural design, cultural leisure, outdoor sports, folk culture, parent-child interactions, folk collection, art industry, and other investors enter, and the relevant industrial elements are also gathered to the region,

forming a residential-based diversified development model. With the increase of investors, more social resources also flock to this area. The overall environment of the region is further enhanced, forming a virtuous cycle of development of homestay agglomeration. The other areas where homestays are rarely entered, and regional development has not improved, form a negative cycle of the development environment of homestays. The development of homestay agglomeration area produces regional space differentiation.

The formation and evolution of the Mogan Mountain homestay agglomeration are the result of the accumulation of above three effects at different stages (Figure 8). In the initial stage, the resource-driven effect is the main consideration for the location of homestay. The first developed homestays mainly consider the spatial proximity of high-quality tourism resources and land use conditions. In the rapid development stage, the local government attached great importance to the economic growth of homestay tourism and begun to stress the development of tourism resources and the construction of scenic spots. Tourism services, tourism transportation, and other public services also achieved great progress. As a result, a growing number of homestays' buliders chose Mogan Mountain as entrepreneurial location, which produced a significant scale effect. Along with the enlargement of scale effect, the production and development of the upstream and downstream industry chain of homestay tourism products have been stimulated. Meanwhile, the government has promulgated relevant policies to stimulate the production of farmers and external management in the supply chain of tourism lodging. The increasing market consumption scale has also continuously promoted the sustainable growth of the Mogan Mountain homestay tourism economy. These two kinds of forces, namely, push force (resource-driven effect) and pull force (scale effect), together promote the continuous expansion of Mogan Mountain homestay agglomeration. Benefiting from emphasis of governments, large and branded homestay tourism facilities or tourism projects, however, will attract homestays to relocate for subsequent construction during the process, which has resulted in spatial differentiation, namely, the differentiation effect of mature stage.

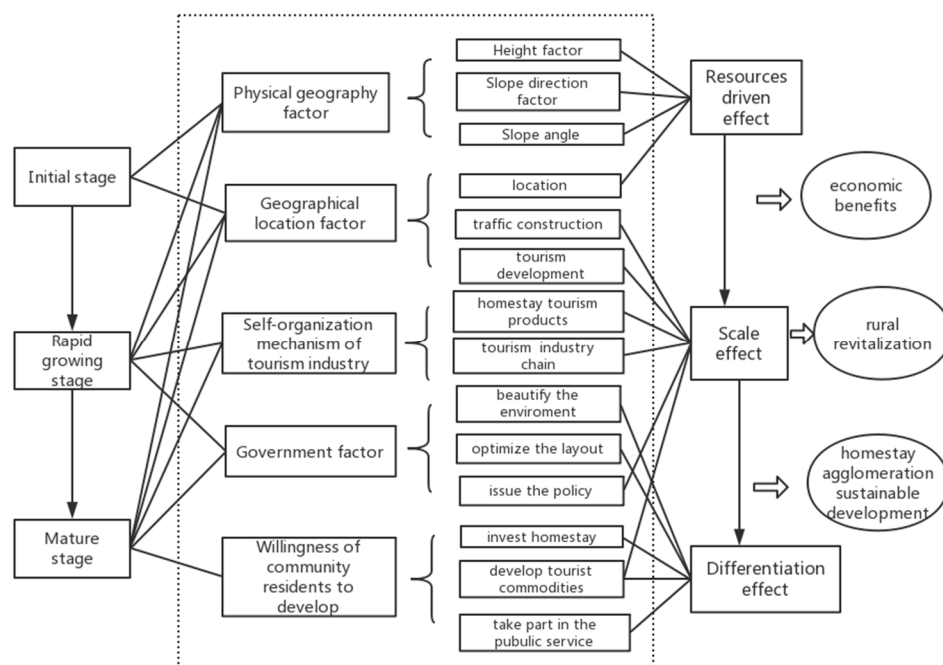


Figure 8. The evolution mechanism of Mogan Mountain homestay agglomeration.

5. Conclusions and Discussion

(1) Homestay is an important tourism product and tourism form, especially in areas where the natural environment and the cultural background are good. In many countries and regions of the world,

including some areas of China, homestay has formed a well-known form of tourism, and even some tourists mainly to experience homestay tourism. However, judging from the development practice, regional characteristics, dynamic factors, and other dimensions, China's homestay development is quite different from that in foreign countries and Taiwan. Firstly, the rapid agglomeration of homestay in China is the result of policy and market promotion. Secondly, most of China's homestay operators are external investors, not local residents. Thirdly, Chinese homestays pay more attention to accommodation function and industrialization, while ignoring host culture. Finally, the homestay development model varies greatly among different regions.

(2) Taking the Mogan Mountain's homestay agglomeration as a case study, this paper divides development characteristics into the initial stage (2007–2011), the rapid development stage (2012–2015), and the mature development stage (2016–present). The main feature of the initial stage is the rise of foreign guesthouses, which led to the development of Moganshan homestay. The main feature of the rapid development stage is that homestays in Moganshan County are mainly distributed in clusters around Mogan Mountain scenic area, the number of homestays has grown by 10% to 20%, the homestays are high-quality and high-end, and locals also invest in the homestay industry. The main feature of the mature development stage is that the income of the homestay is the main source of local taxation, and the property industry has become a pillar industry. Combined with Butler tourist destination life cycle model, the development of Mogan Mountain homestay agglomeration has its own characteristics. In the rapid development stage of Butler tourist destination life cycle model, it is proposed that the simple accommodation facilities are replaced by large scale and modern facilities, while the homestay is precisely the small and refined, returning to the original state of the village. In the mature development stage of the Butler tourism life cycle model, it is proposed that the residents begin to feel disgusted and dissatisfied with tourism, while the development of the homestay just makes local residents happy to participate, increase income, and have good interactions with market development. Before 2012, Mogan Mountain homestay was in short supply. After 2016, the large expansion of homestays led to the bottleneck period of the homestay industry in Moganshan Town. This sharp increase caused oversupply, and local villagers blindly followed the trend and simple imitation of the consequences. Without orderly guidance and development, stagnation development stage may begin. In order to maintain the sustainable development of the Mogan Mountain homestay industry, the government is strict in approving new applications for homestay and hopes to limit the total number of beds to about 10,000 to avoid overloading the homestay capacity.

(3) Through the evolution analysis of Mogan Mountain homestay agglomeration, the main driving factors include natural geographical conditions, traffic location conditions, tourism self-organization mechanism, policy factors, and local residents' willingness to develop. The formation and evolution of the Mogan Mountain homestay agglomeration are the result of the accumulation of resource-driven effect, scale effect, and differentiation effect at different stages. The development of the homestay tourism agglomeration is not only common but also different from that of the urban core tourism agglomeration, the scenic spot tourism agglomeration, and characteristic industrial tourism agglomeration. The commonality is that scale effects are generated through agglomeration. The difference is that homestay agglomeration is a new form of regional sustainable development. As an embedded factor, it is integrated into rural communities and has produced sustainable livelihoods and contributed to rural revitalization. Its unique organization and its incentive mechanism promote regional sustainable development.

(4) Mogan Mountain homestay agglomeration is a form of rural homestay agglomeration, which represents characteristics of Chinese economy, society, and tourism development. Specifically, the differences in performance of homestay industry like tourism seasonality, tourists' adaptability, and cultural acceptance result from divergent climates, geographical conditions, cultures, consumptive habits, and so on [42]. Its nature activator to develop homestay industry for China has wide range territory and various cultures [21]. Also, the ample potential source market, including domestic tourists and inbound tourists, lays a solid foundation for the development of Chinese homestays from

demand side [43]. At the same time, although tourism products are producing a multiple trend with gradually enriched types of destination [44], Mogan Mountain homestay agglomeration still can be regarded as the emblematical model of rural homestays. In order to promote regional sustainable development, it not only satisfies the demands of different stakeholders but also obtains outstanding comprehensive benefits, including economic, cultural, and other related aspects [42] on the basis of the existing rural structure in China. There is no doubt that it, as a vital accommodation facility originated from rural hospitality [43], provides excellent resolution to the problem of merging tourism with rural development perfectly [30], which is a research emphasis for rural homestays. However, considering the differences in facilitating factors, management modes, geographical areas, financing channels, etc., Mogan Mountain homestay agglomeration cannot cover all the aspects. Urban homestay agglomeration, ancient town homestay agglomeration, and government-led homestay agglomeration, for example, also present unique features during the process of agglomeration. They probably have some similarities with Mogan Mountain, but comparative studies still should be strengthened in future research to form a systematic understanding of different types of homestay tourism destinations.

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