

## Article

# The Functional Value Evolution of Rural Homesteads in Different Types of Villages: Evidence from a Chinese Traditional Agricultural Village and Homestay Village

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**Abstract:** China's social and economic development is in a critical period of transition. With the implementation of the Rural Revitalization Strategy, new rural industries and new formats have developed rapidly. Profound changes have taken place in the human–land relationship, population structure, industrial structure, and rural functions in the vast rural areas, which have a huge impact on the function and value of rural homesteads. The functional evolution of rural homesteads has a strong driving effect on the change of function value of the homestead. The functional value of rural homesteads is affected by the social and economic development conditions, location, resource endowment, land use policy, rural land trading market, the development of new industries and new formats, and the evolution of homestead function; different homestead functions have different values, especially in the non-agricultural production function and asset function of the homestead. To revitalize the idle and inefficient use of the homestead and fully manifest its value when the homestead is transferred or withdrawn, it is necessary to scientifically calculate the homestead value according to the principle of “what function is lost and what value is compensated”. This paper adopts basic geographic data, rural land transaction data, and social and economic data, and it uses participatory rural appraisal, the land estimation method, and the comparative analysis method. According to the classic theory of “structure determines function and function determines value” in systems engineering, the equivalent substitution method and market value method are used to measure and compare the functional values of traditional agricultural villages and tourist homestay villages before and after the functional evolution. The results show that (1) the leading functional evolution of homestead landlords is closely related to the level of social and economic development. The change in the functional value of the homestead presents the same law as the evolution of its leading function. (2) The functional evolution of the homestead has a strong driving effect on its value change. The increase in value caused by the functional evolution of homesteads in homestay villages is significantly higher than that in traditional agricultural villages. (3) The functional value of the homestead is affected by the social economy, location, resource endowment, land use policy, rural land trading market, business development, and the functional evolution of the homestead. (4) It is suggested that the state formulates the compensation standard for voluntary and paid withdrawal of homesteads according to the “functional value theory of homesteads”, to reduce the unfair value compensation caused by location differences.

**Keywords:** rural homesteads; functional value; functional evolution; traditional agricultural village; homestay village; driving forces; China



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## 1. Introduction

Homesteads are one of the most important means of production and living for farmers. They are multifunctional complexes with a living function, agricultural production function, nonagricultural production function, social security function, and asset function [1–4]. At the same time, they are also the core interaction and coupling of the social economy, folk culture, interpersonal communication, and human–land relationship in rural areas, and they play a vital role for rural residents [5,6]. In addition to being the carrier of buildings such as houses and ancillary facilities, homesteads also carry important values that cannot be ignored, such as social security, rural culture, and clan-blood relationships [7–10]. With the implementation of the Rural Revitalization Strategy and urban capital going to the countryside, new rural industries and new business formats have developed rapidly, the demand for homesteads has become increasingly more vigorous, and their revitalization and utilization have gradually become the focus of attention from all sectors of society [11,12]. In the process of homestead transfer, withdrawal, and reuse, reasonable compensation is the key to its smooth implementation, and the value of the homestead needs to be measured scientifically [13–15]. The functional evolution of the homestead is the key factor affecting the value of the homestead [16]. Therefore, studying the value of the homestead from the perspective of function is the premise and foundation for the transfer, withdrawal, and reuse of the homestead. At the same time, it has also become a hot issue in academic circles [17–19].

Land value can be divided into labor value, income value, utility value, market value, nonmarket value, and ethical value, according to its type, which is mainly affected by the degree of human demand for land and the utility of various functions that land can provide for human society [20,21]. From the perspective of utility value, a homestead has multiple utility values for farmers, such as living, agricultural production, nonagricultural production, social security, and asset appreciation [22–24]. The relevant departments simply classify the homestead as rural collective construction land and only study its material form of land and property rights. However, the homestead has never been a pure construction land but a multifunctional composite space carrying the cultural and emotional values of rural residents with low investment and high output [25,26]. As the homestead has multiple functions, its value should be the sum of multiple functional values. When the state issues land policies such as “urban and rural construction land increase and decrease hook” and “entering the market of collectively operated construction land” and local pilot projects such as “land ticket” and “land coupons”, the homestead will be reclaimed as the index of construction land for entering the market; thereby, farmers can only obtain one of the multiple functional values of the homestead, and whether the asset functional value reflects the sum of other multiple functional values needs in-depth research to evaluate [27]. Therefore, when evaluating the value of homestead withdrawal and transfer, it has certain defects when evaluating the functional value of assets as only a means of production. Hence, it should be evaluated according to the function of the homestead and the principle of “what function is lost and what value is compensated” [28].

In addition to the multifunctionality of the homestead, its rights relationship, human–land relationship, and other aspects are extremely complex, and various influencing factors need to be comprehensively considered in the calculation of its value [29]. In the context of social and economic transition, farmers’ livelihood strategies have shifted to nonagricultural or agro-industrial integration [30]. The “leaving the soil and leaving the village” of the second and third generations of farmers has led to significant changes in farmers’ intergenerational relations [31]. The idle or non-agricultural utilization of homesteads has led to changes in human–land relations [32], which has ultimately led to great changes in the function and value of homesteads [33]. At present, there are abundant research results on the calculation of the value of the homesteads, mainly focusing on the compensation and price evaluation of homestead withdrawal [28,34], benchmark land price calculation [35], nonmarket value [8], and function-based value calculation [11,13,36]. Homestead withdrawal compensation or value evaluation methods mainly include the production function

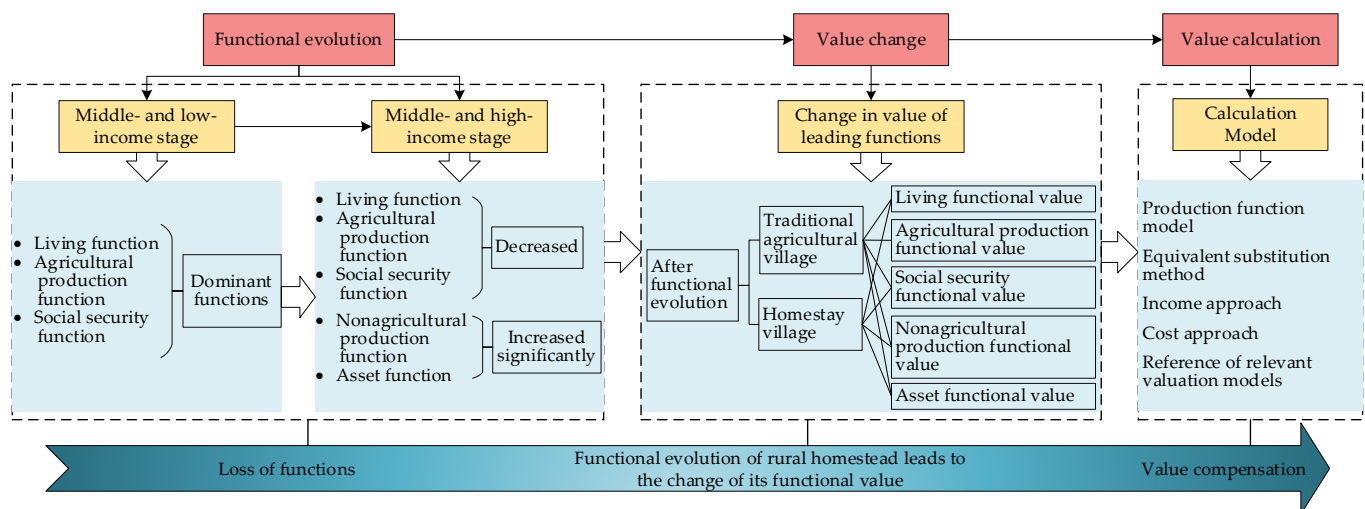
model [13], cost–benefit method [34], simulation method [36], conditional value evaluation method [37], opportunity cost method [38], and equivalent substitution method [36]. The relevant research results have laid an important foundation for the calculation of the functional value of homesteads. However, the current research mainly calculates the functional value of homesteads for certain types of villages, such as traditional agricultural villages, commercial service villages or industrial villages in urban suburbs, and tourist villages, but the results of comparative research on the evolution of the functional value of homesteads between traditional agricultural villages and homestay villages are relatively rare. Through comparative research, the law of the value differentiation of homesteads under different utilization methods is revealed, which provides guidance for the revitalization and utilization of idle and low-efficiency homesteads in the process of rural revitalization.

Based on the above analysis, this paper intends to select traditional agricultural villages and homestay villages as case villages to calculate the functional value of homesteads in different industrial types of villages; analyze the characteristics and influencing factors of the functional value differences of homesteads in different types of villages; reveal the evolution of the functional value of homesteads; and provide a scientific basis and case reference for homestead functional renewal, homestead transfer, and nonagricultural management in the process of rural revitalization.

## 2. Analytical Framework

According to the division standard of per capita gross national income (GNI) in the World Bank's 2019 world development report, the division range of low-income countries is US \$1025 per capita, and below this level, the division range of lower–middle-income countries is US \$1026~3995 per capita, the division range of upper–middle-income countries is US \$3996~12,375 per capita, and the division range of high-income countries is US \$12,376 per capita and above. China's per capita GNP in 2010 was US \$4340 and has entered the development stage of middle-income countries. In addition, according to the data in the "great changes in the past 70 years, national rejuvenation and glory—one of the series reports on the achievements of economic and social development in the 70th anniversary of the founding of new China" released by the National Bureau of statistics in 2019, China's per capita gross national income reached US \$9470 in 2018, which is higher than the average level of middle-income countries, indicating that China has transitioned to the development stage of middle and high-income countries from low-income countries.

According to the classical theory of system engineering, "structure determines function, the function determines value", the function of a homestead determines its value, and its value will change with the evolution of function. Quantifying the main functional values before and after the significant evolution of the function of the homestead can intuitively represent the impact of the evolution of the homestead function on its value and can provide a scientific basis for the transfer of the right to use the homestead, the entry into the market, and the exit value evaluation of the homestead. With the transition and development of the social economy, the evolution of farmers' livelihood strategies and the increase in farmers' savings, rural residents' requirements for the living environment continue to improve, which leads to changes in the strength of various functions of the homestead; that is, when the per capita gross national income is in the middle- and low-income stage, the leading functions of the homestead are mainly the agricultural production function, living function, and social security function. When the per capita gross national income reaches the middle-and high-income stage, the functions of living, agricultural production, and social security of the homestead are significantly weakened, while the functions of nonagricultural production and asset appreciation are significantly enhanced (Figure 1).



**Figure 1.** The analytical framework of rural homestead function evolution under the background of national economic income level change.

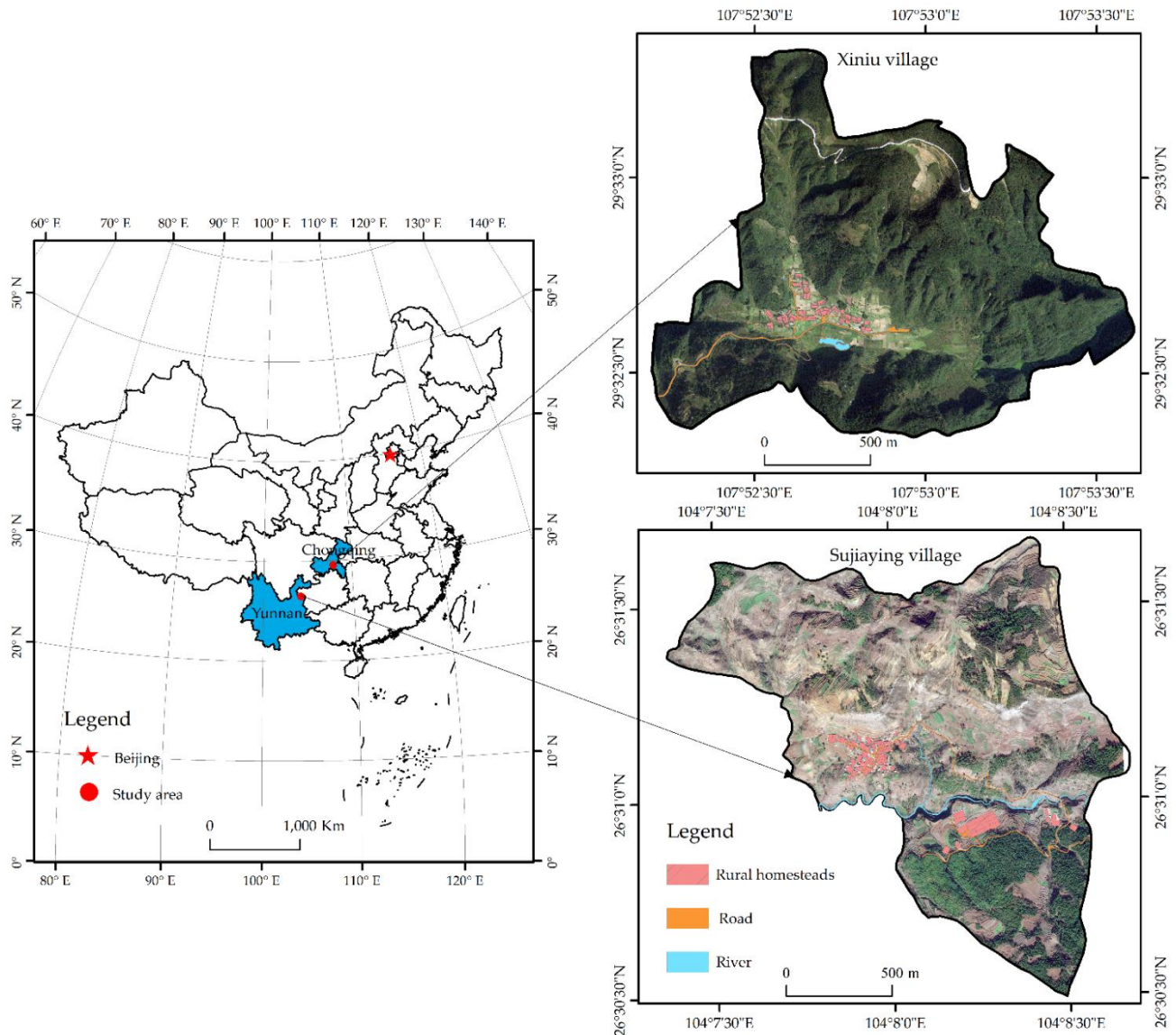
### 3. Materials and Methods

#### 3.1. Study Area

This paper selected Xiniu village in the Wulong District of Chongqing City and Sujiaying village in Xuanwei City of Yunnan Province as the case areas for the functional evolution and value measurement of homesteads in homestay villages and traditional agricultural villages, respectively (Figure 2). The reasons for selecting Xiniu village in Chongqing as a sample of homestay villages in hilly areas were as follows: (1) the village is located in the hilly area, on the Tiansheng Three Bridges and Houping Tiankeng tourism ring, the world natural heritage in Wulong District, Chongqing, which is the first batch of national global tourism demonstration areas. (2) Xiniu village is a well-preserved traditional ancient village of Tujia nationality. It has been rated as a “Chinese traditional village” by 7 ministries and commissions, including the Ministry of Housing and Urban-Rural Development of the People’s Republic of China and the Ministry of Culture and Tourism of the People’s Republic of China. (3) The homesteads have experienced an obvious process of functional evolution. It has realized the revival of the village through the development of a self-operated homestay. It is one of the typical sample points for the study of the functional evolution of homestay villages. The reasons for selecting Sujiaying village as a sample of traditional agricultural villages in mountainous areas were as follows: (1) the village is located in the hinterland of the Yunnan Guizhou Plateau. The landform type is mainly mountainous. It is a typical remote mountainous village. The evolution of homesteads in time and space has obvious phased characteristics. (2) The village is a typical traditional agricultural village. With the development of the social economy, some migrant workers and a large proportion of farmers are still engaged in household farming. The differentiation of farmers’ livelihood strategies is obvious. Most migrant farmers build new houses or renovate houses when their savings reach a certain degree. Population migration and changes in farmers’ livelihood have a good corresponding relationship with the changes in homestead structure and function, which is a rare case area. (3) Sujiaying village is also one of the new rural construction villages and is highly representative of the revitalization of rural areas in mountainous areas.

According to the survey, by the end of 2019, Sujiaying village had a total population of 281, with 108 permanent residents, accounting for 38.43%, and 173 migrant workers, accounting for 61.57%. In the age composition of the population in Sujiaying village, teenagers account for 17.44%, young adults 35.59%, middle-aged 31.67%, and old people 15.30%. According to the population aging standard of 7.0%, Sujiaying village has entered the aging stage, and the proportion of teenagers is also large. The proportion of middle-aged and elderly people is greater than one third of the total population. By the end of 2019,

Xiniu village has a total population of 180, with 126 permanent residents, accounting for 69.77%, and 54 migrant workers, accounting for 30.23%. In the population age composition of Xiniu village, teenagers account for 17.22%, young adults 20.00%, middle-aged 42.22%, and old people 20.56% (Figure 3).

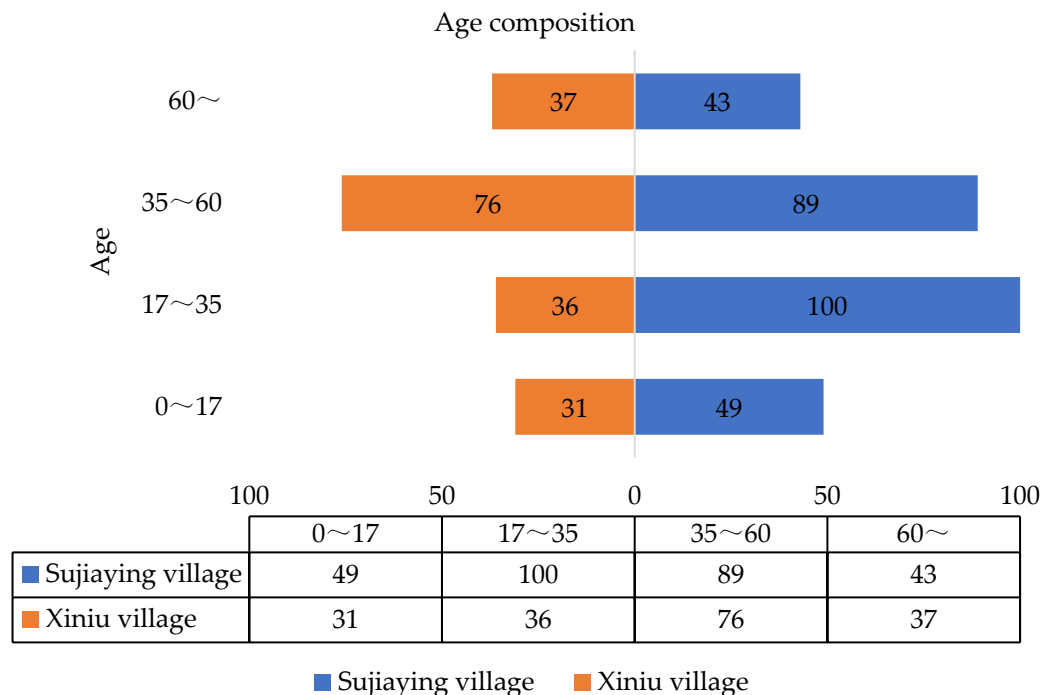


**Figure 2.** Location of the case area.

### 3.2. Data Sources

The data of this paper come from the field research data, the statistical yearbook of the districts and counties where the case area is located, the government work report, the social and economic data of the village committee, and related documents. Comprehensive and in-depth interviews were conducted in Sujiaying village in 2017, 2018, and 2019 to obtain the functional evolution of the homestead and relevant homestead value data. In August 2019, an in-depth investigation was conducted to obtain relevant homestead value data on the functional evolution of homesteads, farmers' livelihood, and the operation status of homestays in Xiniu village. The investigation methods were the participatory rural assessment and the random sampling method. A total of 150 questionnaires were obtained, including 138 valid questionnaires. The content framework of the questionnaire includes four parts (Tables S1–S4). First, it included the situation of family members, including the number of members and their relationships, gender, nationality, age, education level,

occupation, and income. Second, it included household income and expenditure, including agricultural income and expenditure, homestead operation income and expenditure, and others. Third, it included the utilization of rural homestead, including homestead area, housing construction structure, housing construction cost, current functions of the homestead, satisfaction with homestead policies, etc. Fourth, it included the internal structure of the homestead, including the living room, bedroom, sundry room, livestock and poultry enclosure, courtyard planting land, and other information on the homestead. Chongqing land ticket data came from the announcement of transaction results released by the Chongqing country land exchange.



**Figure 3.** Population age composition of Sujiaying village and Xiniu village in 2019.

### 3.3. Methods

#### 3.3.1. Living Functional Value Calculation Model

The living functional value of the homestead is the welfare value enjoyed by farmers who apply for the use of the homestead free of charge to ensure that members of rural collective economic organizations enjoy the right of residence according to the law under China's socialist system. This is equivalent to the policy of indemnification housing and public rental housing in cities and towns, which can ensure the basic right of farmers to live and survive. According to the order of the Ministry of Housing and Urban–Rural Development of the People's Republic of China (No. 11) on the measures for the administration of public rental housing, public rental housing refers to affordable housing that limits the construction standard and rent level and is rented to urban middle- and lower-income families with housing difficulties, new jobless workers, and migrant workers who are stably employed in cities and towns. Generally, the per capita guaranteed area and the monthly housing subsidy amount per square meter are set according to the actual situation of each province and city (Formula (1)). Both the subsidy standards for public rental housing and low-rent housing represent the degree of housing security provided by the local government to residents. Due to the different relevant standards issued by various regions, part of the article is the subsidy standard for public rental housing, and part is the subsidy standard for low rent housing.

$$D_1 = 12 \times N_1 \times a_1$$

$$P_1 = \frac{D_1}{r} \times \frac{A_1}{b} \quad (1)$$

In Formula (1),  $P_1$  is the living functional value of the homestead (yuan/m<sup>2</sup>),  $D_1$  is the per capita affordable housing subsidy (yuan/person · year),  $N_1$  is the per capita affordable housing area,  $a_1$  is the standard of affordable housing subsidy (yuan/m<sup>2</sup> · month),  $r$  is the capital reduction interest rate,  $A_1$  is the total rural population in the area, and  $b$  is the total homestead area in the area.

### 3.3.2. Agricultural Production Functional Value Calculation Model

The agricultural production functional value of the homestead mainly refers to the utility value that the homestead is able to provide farmers with breeding space, courtyard planting space, and agricultural product storage space. Through the investigation, it was found that grain storage is mainly for breeding services, and small farmers' family breeding is mainly poultry, including pigs, chickens, and ducks, most of which are consumed by the family, and a few are put on the market. Courtyard planting is dominated by a small amount of vegetables. Because it accounts for a small proportion of the value of the agricultural production function, it is difficult to quantify. At the same time, courtyard planting does not exist for all farmers. Therefore, it is not considered in the value calculation. Because the rural–urban fringe generally does not use homesteads for breeding, and because there are a large number of farmers who have not developed a breeding industry in rural areas, such farmers' consumption of meat and poultry mainly depends on the market. Therefore, this paper uses the average breeding profit of farmers' homesteads to replace the agricultural production functional value of the homestead, obtains the breeding profit of unit homesteads by the ratio of farmers' livestock and poultry breeding profit to the homestead area in the study area, and calculates the breeding profit of average farmers' homesteads according to the number of farmers participating in the breeding industry (Formula (2)).

$$P_2 = (\sum_n^1 P_R) / n \quad (2)$$

In Formula (2),  $P_2$  is the agricultural production functional value of the homestead,  $P_R$  is the breeding profit of the farmers' homesteads, and  $n$  is the number of farmers participating in the breeding industry.

### 3.3.3. Nonagricultural Production Functional Value Calculation Model

The nonagricultural production functions of homesteads mainly include the following categories: small supermarkets and shops, agritainment and restaurants, homestays, and hotels. Since the business income of commercial services is closely related to regional socioeconomic development and market conditions, the arithmetic mean of the three types of business net income or a certain type of business net income in the study area is equivalent to replacing the nonagricultural production functional value of the homestead (Formula (3)).

$$P_3 = \left( \sum_n^1 (p_s + p_r + p_h) \right) / n \quad (3)$$

In Formula (3),  $P_3$  is the nonagricultural production functional value of the homestead,  $P_s$  refers to the net income of homestead operating stores,  $P_r$  is the net income from homestead operations of agritainment or restaurants,  $P_h$  refers to the net income from homestead operations of homestays or hotels, and  $n$  refers to the number of nonagricultural production types of homesteads.

### 3.3.4. Asset Functional Value Calculation Model

At present, China has not formed a comprehensive rural construction land market, but with the development of the Chongqing land ticket system, the pilot of rural collective operating construction land entering the market, Yiwu land coupons, and other local rural construction land markets, there is a relatively mature practice reference. Since the land ticket system is currently mainly piloted and operated in Chongqing, the functional value of

homestead assets can refer to the average land ticket transaction price in 2019. However, not all homesteads in all regions can be reclaimed to form land tickets or land coupons or traded as collective operating construction land. Therefore, in areas that do not meet the conditions for realizing the functional value of the above assets, the average price of land acquisition compensation in the study area can be used as a reference. According to the actual situation, this study adopts the latest average transaction price of land reclamation as the land ticket and the arithmetic average of the average local land acquisition compensation price or the average transaction price of a certain type as the equivalent substitute value of the functional value of the homestead asset (Formula (4)).

$$P_4 = \left( \sum_n^1 (p_t + p_d + p_a) \right) / n \quad (4)$$

In Formula (4),  $P_4$  is the functional value of the homestead assets,  $P_t$  is the average circulating price of the homestead,  $P_d$  is the latest average transaction price of land reclamation for homestead land or the average transaction price of collectively-owned construction land entering the market,  $P_a$  is the average price of local land acquisition compensation, and  $n$  is the number of types realized by the functional value of homestead assets.

### 3.3.5. Social Security Functional Value Calculation Model

As one of the most important benefits that farmers can obtain for free, the homestead has a certain degree of social security function. Urban residents generally enjoy social security, such as a pension, medical care, and unemployment, while rural residents enjoy much less than urban residents. Although old-age security and rural cooperative medical security systems have been established in rural areas, their security is still relatively low. In this study, the social security functional value of the homestead is mainly measured by the social security value, which is similar to the way that the land expropriated farmers can have the same treatment as the social pension insurance of urban workers by exchanging land for social security. The margin between the government financial expenditure of the urban enterprise employee endowment insurance and the government compensation amount of the rural residents' endowment insurance is used to equivalently replace the social security functional value of the homestead (Formula (5)).

$$P_5 = \frac{(UPI - RPI)}{r \times b} \quad (5)$$

In Formula (5),  $P_5$  is the social security functional value of the homestead,  $UPI$  is the government financial expenditure on pension insurance for employees of urban enterprises,  $RPI$  is the government compensation for old-age insurance for rural residents,  $r$  is the discount rate, and  $b$  is the per capita homestead area.

## 4. Results

### 4.1. Functional Value Calculation before and after the Functional Evolution of Homesteads in Traditional Agricultural Villages

#### 4.1.1. Calculation of the Dominant Functional Value before the Functional Evolution of Homesteads in Traditional Agricultural Villages

##### (1) Living functional value

According to the pilot plan for promoting the allocation, management, and operation of public rental housing in Yunnan Province; the notice of the Department of Housing and Urban–Rural Development of Yunnan Province on the implementation of the newly revised application and contract for public rental housing in Yunnan Province ([2016] No. 433); and the implementation plan for the rental and sales of affordable housing in Dongmenhaizi, Xuanwei City, the application conditions for public rental housing in Xuanwei City are determined as follows: families and single persons who work (or start a business), live, have no housing, or have a per capita housing construction area of less than 30 m<sup>2</sup> in the

central urban area. According to the implementation opinions of the People's Government of Yunnan Province on further accelerating the construction of affordable housing projects ([2009] No. 145), the monthly subsidy standard for housing leasing is determined based on the local average market rent and the payment capacity of urban minimum income families and is implemented according to the standard of 5–10 yuan/m<sup>2</sup>. In this paper, the case area of traditional agricultural villages is Sujiaying village, Xuanwei city, Yunnan Province, which is a remote mountain village. The monthly subsidy for public rental housing is calculated according to the minimum value. Therefore, it was determined that the per capita minimum area of public rental housing in the study area is 30 m<sup>2</sup>, and the monthly subsidy standard for public rental housing is 5 yuan/m<sup>2</sup>. According to Formula (1), the per capita annual rent subsidy for affordable housing in rural areas of Xuanwei city is calculated as 1800 yuan. The village land area of Xuanwei city in 2009 was 13,715.47 hm<sup>2</sup>, and the rural registered population was  $122.33 \times 10^4$ , so the per capita homestead was 112.12 m<sup>2</sup>, and  $r$  was 4.00% based on the five-year interest rate of the 2009 national debt. According to Formula (1), the living functional value before the evolution of the homestead function ( $P_{1 \text{ before}}$ ) in the study area was obtained as 401.36 yuan/m<sup>2</sup>.

#### (2) Agricultural production functional value

In Sujiaying village, the case area of a traditional agricultural village, a large proportion of farmers' livelihood sources are the breeding industry, including pigs, cattle, sheep, and poultry. Among them, pig breeding is dominant, cattle and sheep account for a small proportion, and poultry are mainly self-sufficient. According to the Xuanwei Yearbook 2010, the profit value of animal husbandry in the city in 2009 was  $16.60 \times 10^8$  yuan, and the rural residential areas in Xuanwei city in 2009 were 13,715.47 hm<sup>2</sup>. The agricultural production functional value before the evolution of the homestead function ( $P_{2 \text{ before}}$ ) in the study area was calculated as 12.10 yuan/m<sup>2</sup>.

#### (3) Social security functional value

According to the social security payment base standard of Yunnan Province in 2010, the minimum payment wage base of basic old-age insurance for urban employees is 1350 yuan/month, and the maximum payment wage base is 6750 yuan/month. Among them, the proportion of government commitment is 28%, that is, the minimum amount of government commitment is 378 yuan/month, and the maximum amount is 1890 yuan/month, with an average of 1134 yuan/month. According to the measures for the pilot implementation of new rural social endowment insurance in Yunnan Province (Trial) ([2009] No. 13) in 2009, the central government funds or Yunnan provincial financial funds subsidize the insured 55 yuan/month per person, that is, the nonpersonal expenditure is 55 yuan/month. Therefore, the government's endowment insurance fund margin between urban residents and rural residents is 1079 yuan/month. The discount rate is calculated at the interest rate of 4.00% based on the five-year treasury bond of the Ministry of Finance of China in 2009. In 2009, the per capita homestead area of Xuanwei city was 112.12 m<sup>2</sup>. According to Formula (5), the social security functional value before the evolution of the homestead function ( $P_{5 \text{ before}}$ ) in the study area is 240.59 yuan/m<sup>2</sup>.

Based on the above calculation, the dominant functional value before the functional evolution of the homestead in a traditional agricultural village includes the living functional value, the agricultural production functional value, and the social security functional value, which are 401.36 yuan/m<sup>2</sup>, 12.10 yuan/m<sup>2</sup>, and 240.59 yuan/m<sup>2</sup>, respectively, totaling 654.05 yuan/m<sup>2</sup>.

### 4.1.2. Dominant Functional Value Calculation after the Functional Evolution of Homesteads in Traditional Agricultural Villages

#### (1) Living functional value

In 2017, the annual rent subsidy per capita for affordable housing in Xuanwei city, Yunnan Province, was the same as that before the evolution of the homestead function, which was still 1800 yuan/person. The area of rural residential land in Xuanwei city in 2018

was 14,465.41 hm<sup>2</sup>. According to the Xuanwei Yearbook 2018, the rural registered residence population in 2017 was  $82.82 \times 10^4$ , and the per capita rural residential land was 174.66 m<sup>2</sup>,  $r$  taking the five-year interest rate of 2019 national debt as 4.27%. According to Formula (1), the living functional value of the Xuanwei homestead after functional evolution ( $P_{1 \text{ after}}$ ) was calculated to be 241.35 yuan/m<sup>2</sup>.

### (2) Agricultural production functional value

In addition to a small-scale breeding yard in Sujiaying village, most other farmers still use pens for the free-range breeding of livestock. The breeding cost mainly includes piglets, feed, medicine, and grain (converted). The gross income of pig breeding is calculated according to the market price of pigs in 2019, and its profit is the value of gross income minus cost. In 2019, the average input of breeding in Sujiaying village was 10,137.5 yuan/year, the average gross income of breeding was 19,002.5 yuan/year, the average profit of breeding was 8865 yuan/year, and the average homestead area of the village was 236.75 m<sup>2</sup>. According to Formula (2), the agricultural production functional value after the evolution of the homestead function. ( $P_{2 \text{ after}}$ ) in the study area in 2019 was 43.31 yuan/m<sup>2</sup>.

### (3) Nonagricultural production functional value

According to the 2019 field research on the fixed market point in the central village where the study area is located, a total of 31 farmers used their homesteads to carry out nonagricultural production and business activities. The business types mainly include grocery stores, electrical appliances, furniture processing and sales, restaurants, barbershops, and pharmacies. Among them, 13 households use their homesteads for operation, and the remaining 18 households conduct nonagricultural production and operation by renting homesteads in farmers' new villages. As the study area is located in a remote mountainous area, restaurants, barbershops, and other business activities are generally open only during the market hours, three times a month, and they are idle at other times. The survey results show that the average non-agricultural production functional value of the homestead operating restaurants is 100 yuan/m<sup>2</sup>, the functional value of the barbershop is 100 yuan/m<sup>2</sup>, while the shops, furniture stores, breweries, and pharmacies are open for a long time, and their average functional values are 333.33 yuan/m<sup>2</sup>, 375 yuan/m<sup>2</sup>, 350 yuan/m<sup>2</sup>, and 333.33 yuan/m<sup>2</sup>, respectively (Table 1). According to formula (3), the nonagricultural production functional value of the Sujiaying village homestead after functional evolution ( $P_{3 \text{ after}}$ ) is 283.88 yuan/m<sup>2</sup>.

**Table 1.** Nonagricultural production and management categories and income of homesteads in Sujiaying village.

| Nonagricultural Production and Operation Category                                          | Quantity | Area of Homestead Used for Nonagricultural Production (Unit: m <sup>2</sup> ) | Annual Net Income from Nonagricultural Production (Unit: yuan) | Non-Agricultural Production Functional Value of Homestead (Unit: yuan/m <sup>2</sup> ) |
|--------------------------------------------------------------------------------------------|----------|-------------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------------------------|
| Restaurants (open on market day, idle at other times)                                      | 6        | 80                                                                            | 8000                                                           | 100                                                                                    |
| Barbershop (open on market day, idle at other times)                                       | 2        | 80                                                                            | 8000                                                           | 100                                                                                    |
| Stores (daily necessities, home appliances, agricultural tools, etc.; long-term operation) | 18       | 120                                                                           | 40,000                                                         | 333.33                                                                                 |
| Furniture store (production, processing, storage and sales, long-term operation)           | 1        | 120                                                                           | 45,000                                                         | 375                                                                                    |
| Brewing workshop (production, processing, storage and sales, long-term operation)          | 1        | 100                                                                           | 35,000                                                         | 350                                                                                    |
| Pharmacy (long-term operation)                                                             | 3        | 120                                                                           | 40,000                                                         | 333.33                                                                                 |
| Average value                                                                              | —        | 103.33                                                                        | 29,333.33                                                      | 283.88                                                                                 |

#### (4) Asset functional value

This paper mainly selected land expropriation compensation and resettlement compensation as the equivalent replacement for the homestead asset functional value. According to the relevant provisions of the compensation standard for land acquisition in 15 prefectures (cities) of Yunnan Province (revised) and the correction coefficient, the land compensation fee of Sujiaying village was calculated as 18-times the unified annual output value of land acquisition, which was 607,500 yuan/hm<sup>2</sup>, and the resettlement compensation fee was calculated as 15-times the unified annual output value of land acquisition, which was 573,750 yuan/hm<sup>2</sup>. According to the survey, the study area is a remote mountainous area, and rural houses are mainly brick (stone) and wood structures, civil structures, and simple houses. The average compensation standard for these three types of houses is 533.33 yuan/m<sup>2</sup>. Therefore, the compensation cost of homestead land acquisition in the study area consisted of three main costs: land compensation fee, resettlement compensation fee, and aboveground housing compensation fee, which are 60.75 yuan/m<sup>2</sup>, 57.38 yuan/m<sup>2</sup>, and 533.33 yuan/m<sup>2</sup>, respectively, with a total of 651.46 yuan/m<sup>2</sup>.

Sujiaying village is a typical remote village in the inland hinterland of the Yunnan Guizhou Plateau, with relatively few homesteads and house transfers. The survey shows that the rental of homesteads mainly occurs in and near the central village market, and the average annual rent from 2018 to 2020 was 43.75 yuan/m<sup>2</sup>. The average transaction price of privately traded homesteads among farmers is 270 yuan/m<sup>2</sup>. It was calculated that the average transfer price of a homestead in the research area of a traditional agricultural village is 156.88 yuan/m<sup>2</sup>.

The main methods for realizing the functional value of homestead assets in Yunnan Province were land acquisition and circulation. The main methods for realizing the functional value of homestead assets in the traditional agricultural village research area were the land acquisition behavior of farmers' new village construction and the private transaction and rental behavior of homesteads among farmers. Therefore, the asset functional value after the evolution of the function of the homestead ( $P_{4 \text{ after}}$ ) in traditional agricultural villages in mountainous areas will adopt the land acquisition compensation cost and the average transfer price of the homestead as the equivalent replacement value, which is 404.17 yuan/m<sup>2</sup>.

#### (5) Social security functional value

According to the social security payment base standard of Qujing city in 2018, the minimum payment wage base of basic old-age insurance for urban employees is 3178 yuan/month, and the maximum payment wage base is 15,891 yuan/month, of which the proportion borne by the government is 19%, that is, the minimum amount borne by the government is 603.82 yuan/month, and the maximum amount is 3019.29 yuan/month, with an average of 1811.56 yuan/month. According to the payment level and amount of basic endowment insurance for urban and rural residents in Xuanwei city in 2018, the payment level is divided into 12 levels. Based on the calculation, the average nonpersonal expenditure is 120.42 yuan/year (10.04 yuan/month). Therefore, the margin between the government's endowment insurance funds for urban and rural residents is 1801.52 yuan/month. The discount rate is calculated at the interest rate of 4.27% based on the five-year treasury bond of the Ministry of Finance of China; in 2018, the per capita homestead area of Xuanwei city was 174.66 m<sup>2</sup>. According to Formula (5), the social security functional value after the evolution of the homestead function ( $P_{5 \text{ after}}$ ) in this study area of traditional agricultural villages is 242.9 yuan/m<sup>2</sup>.

Based on the above calculation, after the functional evolution of the homestead in the study area of traditional agricultural village, the dominant functional value includes the living functional value, agricultural production functional value, nonagricultural production functional value, asset functional value, and social security functional value, which are 241.35 yuan/m<sup>2</sup>, 43.31 yuan/m<sup>2</sup>, 283.88 yuan/m<sup>2</sup>, 404.17 yuan/m<sup>2</sup>, and 242.9 yuan/m<sup>2</sup>, respectively, totaling 1215.61 yuan/m<sup>2</sup>.

#### 4.2. Functional Value Calculation before and after the Functional Evolution of Homesteads in Homestay Villages

##### 4.2.1. Dominant Functional Value Calculation before the Functional Evolution of Homesteads in Homestay Villages

###### (1) Living functional value

According to the minimum rental area and rent subsidy in the Interim Measures for the Administration of Public Rental Housing in Chongqing ([2010] No. 61) and the notice of the People's Government Office of Yuzhong District of Chongqing on Improving the Standard of Subsidy for Low Rent Housing Rent ([2019] No. 44), the minimum affordable housing area per capita in Xiniu village, Wulong District, and the study area of homestay village is determined to be  $12 \text{ m}^2$ , and the monthly subsidy standard for affordable housing is 20 yuan/ $\text{m}^2$ . According to Formula (1), the per capita annual rent subsidy of affordable housing in rural areas in the study area was calculated as 2880 yuan. In 2009, the village land area of Wulong District was  $5492.21 \text{ hm}^2$ , the rural registered residence population was  $23.63 \times 10^4$ , and the per capita rural residential land was  $232.43 \text{ m}^2$ , with  $r$  taking the five-year interest rate of 2009 national debt as 4.00%. According to Formula (1), the living functional value before the evolution of the homestead function ( $P_1 \text{ before}$ ) in the study area of the homestay village is 309.78 yuan/ $\text{m}^2$ .

###### (2) Agricultural production functional value

According to the calculation model of the agricultural production functional value of the homestead, the profit obtained by livestock and poultry breeding represents the agricultural production functional value of the homestead. By the end of 2008, the profit value of animal husbandry in the Wulong District was  $8.12 \times 10^8$  yuan. In 2009, the land area of rural residential areas in the Wulong District was  $5492.21 \text{ hm}^2$ . Based on the calculation, the agricultural production functional value before the functional evolution of the homestead ( $P_2 \text{ before}$ ) is 14.78 yuan/ $\text{m}^2$ .

###### (3) Social security functional value

According to the social security payment base standard of Chongqing in 2009 and the basic endowment insurance payment standard for urban employees, the minimum payment wage base is 1350 yuan/month, and the maximum payment wage base is 6747 yuan/month, of which the proportion borne by the government is 20%, that is, the minimum amount borne by the government is 270 yuan/month, and the maximum amount is 1349.4 yuan/month, with an average of 809.7 yuan/month. According to the notice of Chongqing Municipal People's Government on Carrying Out the Pilot Work of Social Endowment Insurance for Urban and Rural Residents ([2009] No. 85), based on the payment of the insured, the government will subsidize 30 yuan per person per year, that is, the nonpersonal expenditure is 30 yuan/year (2.5 yuan/month). Therefore, the difference between the government's endowment insurance funds for urban residents and rural residents is 807.20 yuan/month. The discount rate is calculated at the interest rate of 4.00% based on the five-year treasury bond of the Ministry of Finance of China. In 2009, the per capita homestead area in the Wulong District was  $232.43 \text{ m}^2$ . According to Formula (5), the social security functional value before the evolution of the homestead function ( $P_5 \text{ before}$ ) in the study area of the homestay village is 86.82 yuan/ $\text{m}^2$ .

Based on the above calculation, the leading functional value before the functional evolution of homesteads in homestay villages includes the living functional value, agricultural production functional value, and social security functional value, which are 309.78 yuan/ $\text{m}^2$ , 14.78 yuan/ $\text{m}^2$ , and 86.82 yuan/ $\text{m}^2$ , respectively, totaling 411.38 yuan/ $\text{m}^2$ .

#### 4.2.2. Dominant Functional Value Calculation after the Function Evolution of the Homestead in the Homestay Village

##### (1) Living functional value

In 2018, the per capita annual rent subsidy for affordable housing in rural areas of the Wulong District was the same as that before the evolution, which was still 2880 yuan. In 2018, the area of village land in the Wulong District was 5492.21 hm<sup>2</sup>; according to the 2018 statistical bulletin on the national economic and social development of Wulong District, Chongqing, the rural registered resident population of the Wulong District was  $19.44 \times 10^4$ , and the per capita rural residential land was 232.43 m<sup>2</sup>.  $r$  takes the five-year interest rate of the 2019 national debt as 4.27%. According to Formula (1), the living functional value after the evolution of the homestead function ( $P_{1 \text{ after}}$ ) in the study area is 309.78 yuan/m<sup>2</sup>.

##### (2) Agricultural production functional value

Xiniu village in the Wulong District currently focuses on the development of rural tourist accommodations and no longer carries out breeding activities. Although most farmers who operate homestays still carry out planting activities, such as corn, potatoes, and vegetables, most agricultural products are consumed when receiving tourists. In addition, some are sold to tourists, and there is no special food storage space on the homestead. Therefore, the agricultural production functional value after the evolution of the homestead function ( $P_{2 \text{ after}}$ ) for developing rural homestays is 0 yuan/m<sup>2</sup>.

##### (3) Nonagricultural production functional value

In 2015, Xiniu village in Wulong District was named the “Chongqing famous scenic tourism village” and “Chongqing Municipal demonstration site of farmers’ new village” by the Chongqing Municipal People’s government and as a “Chinese traditional village” by seven ministries and commissions, including the Ministry of Housing and urban–rural development and the National Tourism Administration. Through the transformation of rural style, old homesteads, and housing structure and function, the development of homestays and the realization of the functional value of homestead nonagricultural production is mainly based on the income obtained from the operation of the homestay.

##### (a) Estimation of homestay construction and operation costs

According to the field survey, the area of the homestead before and after the development of the homestay in Xiniu village showed little change, mainly because the original agricultural production land space was transformed into a homestay land space based on the original homestead, and the average floor area of each homestay was approximately 250 m<sup>2</sup>. In the early stage of construction, the transformation and decoration cost, which needs to be invested at some point in time, is approximately 200,000 yuan. According to the existing relevant subsidy policies, to encourage the development of homestays, the government grants 10,000 yuan to each household. In addition, according to the number of housing bays, the subsidy for the reconstruction of dilapidated rural houses in each bay is 5000 yuan, with an average subsidy of approximately 35,000 yuan per household. Therefore, the one-time investment in the early stage of a single homestay is reduced to 165,000 yuan. The annual operating cost of a homestay includes labor cost, water, electricity, fuel, and an interconnection cost, which is approximately 64,000 yuan per year.

##### (b) Prediction of homestay operating income

The operating income of Xiniu village homestay mainly includes two parts: one part is the income from accommodation and catering, and the other part is the sales of agricultural products, but the main income is the income from accommodation and catering. The survey shows that the sales of agricultural products are less than 10,000 yuan per household every year. Therefore, the operating income of a homestay is mainly predicted to be the accommodation and catering. The business model of the Xiniu village homestay is “farmers’ independent operations”, and the average person in terms of “accommodation + catering” is 150 yuan/day. Considering the self-use

of farmers and other conditions, except for 3–4 houses, a single homestay can have six houses left for accommodation and reception, which are calculated according to the standard room, so the average “accommodation + catering” is 300 yuan/day per room. Considering 121 rest days throughout the year (including 52 double weekends, 11 legal holidays, and 5 public holidays), under different “accommodation unit prices” and “occupancy rates”, the accommodation income of a single homestay is shown in Table 2.

According to different pricing and occupancy rates, the expected annual income of a single homestay operation is between 72,600 yuan and 261,400 yuan. According to the actual investigation, the per capita daily consumption of the Xiniu village rural homestays is 150 yuan, and the income calculated by room is an average of 300 yuan/day for each standard room. As the village belongs to a traditional ancient village, it is rich in tourism resources and attracts sufficient tourists. The annual occupancy rate is more than 70%.

**Table 2.** Annual expected income of Xiniu village single homestay under different room pricing and occupancy rates. (unit: 10,000 yuan).

| Room Pricing        | 50% Occupancy | 60% Occupancy | 70% Occupancy | 80% Occupancy | 90% Occupancy |
|---------------------|---------------|---------------|---------------|---------------|---------------|
| 200 yuan/room · day | 7.26          | 8.71          | 10.16         | 11.62         | 13.07         |
| 260 yuan/room · day | 9.44          | 11.33         | 13.21         | 15.1          | 16.99         |
| 300 yuan/room · day | 10.89         | 13.07         | 15.25         | 17.42         | 19.6          |
| 360 yuan/room · day | 13.07         | 15.68         | 18.3          | 20.91         | 23.52         |
| 400 yuan/room · day | 14.52         | 17.42         | 20.33         | 23.23         | 26.14         |

(c) Calculation of net income from homestay operation

According to “ $profit = revenue - operating\ cost$ ”, the annual operating profit of a single homestay can be calculated under different pricing and occupancy rates. Among them, the operating cost mainly includes labor costs, water, electricity, fuel, and interconnection costs, with a total of approximately 42,400 yuan/year for each household. According to different pricing and occupancy rates, the annual expected net income of a single homestay operation is between 30,200 yuan and 219,000 yuan (Table 3). According to the survey, the annual net income of a single homestay in Xiniu village is between 60,000 and 130,000 yuan. It will be calculated according to the room price of “300 yuan/room · day” and the occupancy rate of 70%, that is, the average annual net income of homestay operation is 110,100 yuan, which will be used as the base for the calculation of nonagricultural production functions of homesteads in Xiniu village.

**Table 3.** Annual expected profit of rural homestay in Xiniu village (10,000 yuan).

| Room Pricing        | 50% Occupancy | 60% Occupancy | 70% Occupancy | 80% Occupancy | 90% Occupancy |
|---------------------|---------------|---------------|---------------|---------------|---------------|
| 200 yuan/room · day | 3.02          | 4.47          | 5.92          | 7.38          | 8.83          |
| 260 yuan/room · day | 5.20          | 7.09          | 8.97          | 10.86         | 12.75         |
| 300 yuan/room · day | 6.65          | 8.83          | 11.01         | 13.18         | 15.36         |
| 360 yuan/room · day | 8.83          | 11.44         | 14.06         | 16.67         | 19.28         |
| 400 yuan/room · day | 10.28         | 13.18         | 16.09         | 18.99         | 21.90         |

- (d) Calculation of the nonagricultural production functional value of homesteads in Xiniu village

According to the above analysis, the average annual net operating income of homesteads in Xiniu village is 110,100 yuan, and the average household homestead area is 250 m<sup>2</sup>. According to Formula (3), the nonagricultural production functional value of the Xiniu village homestead after functional evolution ( $P_{3 \text{ after}}$ ) is 440.40 yuan/m<sup>2</sup>.

- (4) Asset functional value

The functional value of homestead assets in the case area of the homestay village will be calculated with reference to the average transaction price of the Chongqing land ticket in 2019, the average transaction price of collectively operated construction land entering the market, and the average price of land acquisition compensation and resettlement fees. According to the public transaction data of land tickets and collective operating construction land of the Chongqing rural land exchange, the average transaction price of the land ticket in 2019 was 297.49 yuan/m<sup>2</sup>, and the average transaction price of collective operating construction land in 2019 was 572.39 yuan/m<sup>2</sup>. The compensation fee for homestead land acquisition in the Wulong District consists of three main expenses: the land compensation fee, resettlement compensation fee, and aboveground housing compensation fee, which are 18 yuan/m<sup>2</sup>, 128.1 yuan/m<sup>2</sup>, and 533.33 yuan/m<sup>2</sup>, respectively, with a total of 679.43 yuan/m<sup>2</sup>. According to Formula (4), the asset functional value after the evolution of the homestead function of the homestay village ( $P_{4 \text{ after}}$ ) is 516.44 yuan/m<sup>2</sup>.

- (5) Social security functional value

According to the social security payment base standard of Wulong District of Chongqing in 2018 and the payment standard of basic old-age insurance for urban employees, the minimum payment wage base is 3664 yuan/month, and the maximum payment wage base is 18,318 yuan/month. Among them, the proportion borne by the government is 19%, that is, the minimum amount borne by the government is 696.16 yuan/month, and the maximum amount is 3480.42 yuan/month, with an average of 2088.29 yuan/month. The basic endowment insurance payment grades of urban and rural residents in Chongqing are divided into 12 grades. Through calculation, the average payment standard of individuals of different grades is 750.00 yuan/year, and the average nonpersonal expenditure is 85 yuan/year (7.08 yuan/month). Therefore, the margin between the government's compensation funds for the old-age insurance of urban residents and rural residents is 2081.21 yuan/month. The discount rate is calculated based on the five-year treasury bond interest rate of the Chinese Ministry of Finance of 4.27%. The per capita homestead area in the Wulong District in 2018 was 273.22 m<sup>2</sup>. According to Formula (5), the social security functional value after the functional evolution of homesteads ( $P_{5 \text{ after}}$ ) in homestay villages is 178.39 yuan/m<sup>2</sup>.

Based on the above calculation, after the functional evolution of the homestead in the study area of the homestay village, the dominant functional value includes the living functional value, nonagricultural production functional value, asset functional value, and social security functional value, which are 246.86 yuan/m<sup>2</sup>, 440.40 yuan/m<sup>2</sup>, 516.44 yuan/m<sup>2</sup>, and 178.39 yuan/m<sup>2</sup>, respectively, totaling 1382.09 yuan/m<sup>2</sup>.

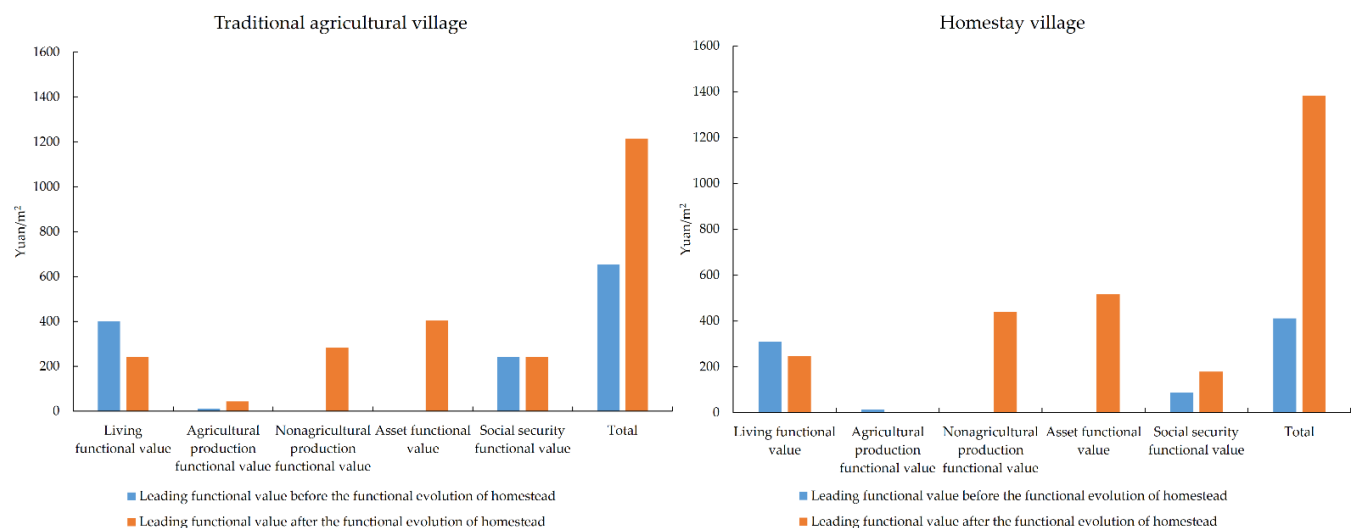
## 5. Discussion

According to the calculation results, (1) the leading functional value of the homestead in the study area of the traditional agricultural village before the functional evolution is the living functional value, agricultural production functional value, and social security functional value, totaling 654.05 yuan/m<sup>2</sup>. After the functional evolution of the homestead, the leading functional value includes the living functional value, agricultural production functional value, nonagricultural production functional value, asset functional value, and social security functional value, totaling 1215.61 yuan/m<sup>2</sup>. (2) The leading functional value of the homestead in the study area of the homestay village before the functional evolution is the living functional value, agricultural production functional value, and social security

functional value, totaling 411.38 yuan/m<sup>2</sup>. After the functional evolution of the homestead, the leading functional value includes the living functional value, nonagricultural production functional value, asset functional value, and social security functional value, totaling 1382.09 yuan/m<sup>2</sup> (Table 4). (3) Before the functional evolution of the homestead in the case area of a traditional agricultural village, the leading functional value is higher than that of a homestay village, while after the functional evolution of the homestead, the homestay village is higher than that of a traditional agricultural village (Figure 4).

**Table 4.** Comparison of the functional value of homesteads between traditional agricultural villages and homestay villages (unit: yuan/m<sup>2</sup>).

| Homestead Functional Value                  | Traditional Agricultural Village                                      |                                                                      |                             | Homestay Village                                                      |                                                                      |                             |
|---------------------------------------------|-----------------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------|-----------------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------|
|                                             | Leading Functional Value before the Functional Evolution of Homestead | Leading Functional Value after the Functional Evolution of Homestead | Price Margin (After-Before) | Leading Functional Value before the Functional Evolution of Homestead | Leading Functional Value after the Functional Evolution of Homestead | Price Margin (After-Before) |
| Living functional value                     | 401.36                                                                | 241.35                                                               | −160.01                     | 309.78                                                                | 246.86                                                               | −62.92                      |
| Agricultural production functional value    | 12.10                                                                 | 43.31                                                                | 31.21                       | 14.78                                                                 | 0.00                                                                 | −14.78                      |
| Nonagricultural production functional value | —                                                                     | 283.88                                                               | 283.88                      | —                                                                     | 440.4                                                                | 440.4                       |
| Asset functional value                      | —                                                                     | 404.17                                                               | 404.17                      | —                                                                     | 516.44                                                               | 516.44                      |
| Social security functional value            | 240.59                                                                | 242.90                                                               | 2.31                        | 86.82                                                                 | 178.39                                                               | 91.57                       |
| Total                                       | 654.05                                                                | 1215.61                                                              | 561.56                      | 411.38                                                                | 1382.09                                                              | 970.71                      |



**Figure 4.** The functional value of homesteads in a traditional agricultural village and homestay village.

### 5.1. Comparative Analysis of Functional Value before and after the Functional Evolution of Homesteads in Traditional Agricultural Villages

According to the calculation results, before and after the functional evolution of homesteads in traditional agricultural villages, the functional value of homesteads per unit area increased significantly, except for the decline in living functional value.

- (1) The living functional value shows a downward trend. With the rapid development of the social economy, the rural population is decreasing, while the area of homesteads

is increasing, but the per capita affordable housing subsidy standard has not changed. In addition, a large number of homesteads are idle or seasonally idle, resulting in the decline of their living functional value.

- (2) The functional value of agricultural production showed a slightly increasing trend. The agricultural production function of the homestead plays an important role for farmers who take traditional agriculture as the main source of livelihood. This is mainly reflected in the fact that homesteads provide farmers with agricultural products storage space, courtyard planting space, and livestock and poultry breeding space, among which livestock and poultry breeding space is the main source of the agricultural production functional value. Except for the farmers in traditional agricultural villages, the farmers in the remaining villages still focus on agricultural production. Most livestock and poultry breeding are still market-oriented production, and the function of agricultural production is still indispensable. Generally, due to the high cost and high disease risk of aquaculture, the scale of farmers' free-range breeding is small, and the agricultural production functional value of their homesteads is not high. In addition, livestock and poultry breeding can also produce a large amount of farm manure, which is the base fertilizer for farmers to grow grain and vegetables.
- (3) With the development of the social economy, the nonagricultural production functional value and asset functional value of homesteads in the case area of traditional agricultural villages started to become visible. Before the significant functional evolution of homesteads in traditional agricultural villages, the nonagricultural production function of homesteads was weak. With the rapid development of the social economy, farmers' nonagricultural production and management activities using homesteads continued to increase, such as the development of shops (grocery stores), manual workshops, restaurants, and agritainment, which promoted the manifestation of the nonagricultural production functional value of homesteads in traditional agricultural villages. Due to the restriction of land policy, rural homesteads in remote mountainous areas are rarely traded. Before the evolution of the landowner guiding function of homesteads in traditional agricultural villages, their asset value was difficult to notice. After the evolution of the guiding function of homestead landlords, the construction of farmers' new villages involved the expropriation of some homesteads, which shows the asset functional value of homesteads. The asset functional value of the homestead is closely related to the rural land system, homestead policy, land acquisition compensation standards, and rural land transaction markets. However, homestead transaction policies and relevant compensation standards are different in different regions, resulting in great differences in the realization mode and its asset functional value.
- (4) The social security functional value changes little. In this paper, the social security functional value of homesteads was mainly characterized by the difference between the old-age insurance subsidies of urban residents and rural residents. Generally, the payment base and subsidy standard of endowment insurance for urban employees and rural residents are implemented according to the unified standard of each province, county, and city. There is no difference in the social security functional value of homesteads in different towns in the same area. The government subsidy standard is adjusted in different development stages, but the range is small. Therefore, there is little difference in the social security functional value before and after the functional evolution of homesteads in traditional agricultural villages.

### 5.2. Comparative Analysis of Functional Value before and after the Functional Evolution of Homesteads in Homestay Villages

According to the calculation results, before and after the functional evolution of the homestead in the case area of the homestay village, functional values increased significantly, except for the decline in the living functional value and agricultural production functional value.

- (1) The living functional value and the agricultural production functional value show a downward trend. In the two stages before and after the functional evolution of homesteads in homestay villages, since the subsidy standards for affordable housing have not changed, the rural population continues to decrease, and the per capita homestead area continues to increase, resulting in a decline in the living functional value. Before the development of homestay businesses in tourist homestay villages, farmers' livelihoods were mainly agricultural production and migrant workers, and the proportion of land used for agricultural production in homesteads was relatively large. After the development of rural homestays, farmers' livelihoods were dominated by tourism and business services. Due to the needs of the development of the service industry, livestock and poultry farming is no longer carried out, the agricultural products produced by a small number of planting industries are basically consumed or bought by tourists, and their agricultural production functions have gradually weakened or even disappeared.
- (2) With the rapid development of new industries and formats such as rural tourism, the nonagricultural production functional value and asset functional value of homesteads in homestay village case areas have begun to thrive. Before the operation of the homestay, the nonagricultural production function of the homestay village was weak, and the asset functional value was difficult to realize. After the development of rural homestays, the focus shifted to nonagricultural production services, such as tourist reception, along with the idle homestead cooperation with enterprises to obtain asset functional income through leasing and equity. Therefore, after the significant functional evolution of the homestead, the nonagricultural production functional value and asset functional value of the homestead increased rapidly. In addition, with the development of new rural industries and new business forms, the utilization rate of rural construction land resources continued to improve. It was revitalized and utilized through the Chongqing land ticket, Yiwu land coupons, and the entry of collectively operated construction land into the market to highlight the asset functional value of the homestead.
- (3) The social security functional value has increased significantly. The social security functional value of the homestead after the functional evolution of the homestead in the homestay village was 91.57 yuan/m<sup>2</sup> higher than that before the evolution, which is mainly due to the large growth of the government subsidy for the old-age insurance of urban enterprise employees in Chongqing and the slow growth of the government subsidy for the old-age insurance of rural residents.

### 5.3. Comparative Analysis with Relevant Studies in Other Countries

As the rural land in China is collectively owned and the western countries are privately owned, the value realization process is different. However, it is an internationally recognized fact that homesteads are multifunctional. It is one of the common ways to develop rural tourism and realize its value by using homesteads. In 1994, the Ministry of Agriculture of Israel issued a policy to allow farmers to use homesteads and buildings for nonagricultural activities (mainly including housing rentals, tourism accommodations, leisure, and entertainment), which revitalized the declining rural areas [39]. The European Commission of the World Tourism Organization states that support for rural tourism can be used as a tool for the development of rural communities. The development of rural tourism promotes the rise in the prices of rural land, buildings, and local products. With the increase in the number of rural tourism homesteads built under the support of EU Structural Funds,

the intensive flow of vacationers may bring problems to the unique natural environment protection, pollution prevention, or environmental protection. In other words, the high concentration of rural tourism homesteads in an area reduces the sustainable development of the sector. Therefore, when evaluating the development of rural tourism homesteads, attention should be paid to the support concentration of rural tourism homesteads [40]. Ramanauskiene et al. have studied the service quality and management of rural tourism in Lithuania, and they believe that the price of rural homesteads is an important part of rural tourism service quality. Improving the management of rural tourism enterprises based on the excellent model of EFQM (European quality management foundation) will help to improve the rural tourism homestead owners' managerial skills and to achieve better results of their performance and business competitiveness from the point of view of management [41]. Rural tourism homesteads can provide many intangible benefits to consumers, such as quality, convenience, entertainment, exploration, and savings. The most important benefits for consumers while choosing a rural tourism homestead in Lithuania are convenience and entertainment. These two benefits represent both utilitarian and hedonic benefits; hence, Lithuanian tourists value cognitive as well as affective benefits provided by rural tourism homesteads in Lithuania [42]. The ecological homestead is an important form of rural homestead in Ukraine, which not only has the function of good governance, but also supports local ecotourism, international cooperation, and beautification of the local area [43]. In general, western countries pay more attention to the value of rural homesteads in rural tourism and community management. This paper calculates the different functional values of homesteads in traditional agricultural villages and tourist homestay villages from a functional perspective, which is innovative from the research perspective.

## 6. Conclusions and Implications

### 6.1. Conclusions

According to the theory of “structure determines function and function determines value” of system engineering, this paper constructs the analytical framework of “functional value change caused by the functional evolution of homesteads”. According to the principle of “what function is lost and what value is compensated”, this paper uses the equivalent substitution method and market value method to calculate the functional values of homesteads before and after the functional evolution of traditional agricultural villages in mountainous areas and homestay villages in hilly areas. It reveals the evolution law and differential characteristics of the functional value of homesteads in villages of different industrial types.

- (1) When the socioeconomic development level is in the middle- and low-income level stage, the living function, agricultural production function, and social security function are dominant in the homestead function. After the socioeconomic development level transitions to the middle- and high-income level stage, the living function, agricultural production function, and social security function are gradually weakened, while the nonagricultural production function and asset function are significantly enhanced. Accordingly, the functional values of the homestead also show the same evolution law.
- (2) Before the functional evolution of the homestead, the leading functional value in the case area of the traditional agricultural village is higher than that of the homestay village, while after the functional evolution of the homestead, the homestay village is higher than that of the traditional agricultural village. After the significant functional evolution of homesteads in traditional agricultural villages and homestay villages, the total functional value of homesteads increased significantly compared with the previous stage. Among them, the total functional value of homesteads in homestay villages has increased significantly more than that in traditional agricultural villages.
- (3) The functional value of homesteads has an obvious regional differentiation law. Affected by social and economic development conditions, location, resource endowment, land use policy, rural land trading market, the development of new industries and

new formats, and the evolution of homestead functions, different homestead functions have different values, which are especially reflected in the nonagricultural production function and asset function.

- (4) This paper discusses the value of rural homesteads from the perspective of function, which is quite different from the fact that only a few functions are compensated when the homestead is transferred or withdrawn. This study provides a theoretical basis for the realization of the multi-functional value of rural homesteads. Especially in the process of rural revitalization, the idea of “what function to lose and what value to compensate” proposed in this paper can be referred to when the homestead is transferred and withdrawn. It can not only manifest the value of the homestead, but also protect the legitimate rights and interests of farmers.

This study makes a comparative analysis of the value evolution of homesteads in different types of villages from the perspective of function, which further enriches the theoretical connotation and case types of homestead exit compensation value calculation. However, this paper only considers the value evolution of the living, agricultural production, nonagricultural production, social security, and asset functions in homesteads but does not consider the difficult-to-quantify values, such as the psychological function and ecological function of homesteads. This will be further studied in the future.

## 6.2. Implications

- (1) It is suggested to compensate for the withdrawal of homesteads under the guidance of “homestead functional value theory” to reduce the unfairness of value compensation caused by location differences in land elements and alleviate the contradiction of unbalanced and insufficient regional development from the aspect of land elements. Compensation for land acquisition and demolition of homesteads in areas such as “villages in the city” and the junction of urban and rural areas is often calculated according to the market value of commercial housing, resulting in the formation of a large number of profit-making strata in such areas, while the compensation value for the withdrawal of homesteads in remote mountainous areas is low, and the interests of farmers are damaged. At the same time, it will also lead to a widening gap between urban and rural areas. Therefore, it is suggested that villages with good resource endowment, such as traditional ancient villages and villages that may develop rural tourism in the future, should be compensated for their functional loss according to the principle of “what function is lost and what value is compensated” when homesteads are transferred.
- (2) It is suggested that the state formulates the compensation standard for voluntary and paid withdrawal of homesteads according to the “homestead functional value theory”. At present, the compensation standards for homestead withdrawal are mostly local practice and exploration, such as the Chongqing land ticket, and Yiwu land coupons, which only compensate for a certain function of the homestead and do not regard the homestead as a “multifunctional complex”, resulting in a low compensation standard for homestead withdrawal and damage to farmers’ land property income. Therefore, it is necessary to issue relevant guidance on the homestead withdrawal compensation standard based on the “homestead functional value theory” at the national level so that local governments can follow rules in promoting the voluntary and paid withdrawal of homesteads and, hence, farmers’ land property income will not be lost.

**Supplementary Materials:** The following supporting information can be downloaded at: <https://www.mdpi.com/article/10.3390/land11060903/s1>, Table S1. Family members. Table S2. Household income and expenditure. Table S2-1. Annual household income. Table S2-2. Annual household expenditure. Table S3. Utilization of rural homestead. Table S4. Interior structural of the current residential rural homestead.

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