


Article

Local Identity Based on Villagers' Vision of Life and Village Dynamics—Evidence from 40 Villages in Yunnan Province, China

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Abstract: Improving local identity is the key to rural sustainable development. Facing the issue of rural hollowing and aging, rural human settlement requires targeted enhancement in conjunction with the living willingness and local identity of villagers. Firstly, this study summarizes the dynamic evolution characteristics of rural human settlement development and population contraction in Yunnan Province from 2001 to 2021, based on the “Production-Living-Ecological” theory. Secondly, the paper selects detailed survey data from 40 administrative villages in Yunnan Province in 2015, analyzes the characteristics of villagers’ living visions in typical villages through questionnaire data, and constructs a comprehensive local identity index model based on multilevel living-visions to quantify the degree of villagers’ identification with rural human settlement construction. Thirdly, the paper analyzes the correlation between the local identity index and the comprehensive human settlement evaluation and analyzes the factors of rural human settlement development that affect the local identity in depth. The results reveal that: (1) rural construction in Yunnan Province cannot adapt to the changing needs of villagers, and the development of rural human settlement is accompanied by a trend of relative shrinkage of the rural population. (2) The local identity index of villagers is weakly correlated with the development of rural human settlements. (3) The rural human settlement factors that influence rural local identity include a dual cohesion–centrifugal trend. The findings suggest that rural development depends on the primary and secondary relationship between cohesion and centrifugal trends, providing a reference for the coupling of rural construction and local identity and promoting the return of rural population to achieve sustainable development.

Keywords: rural human settlement; local identity; villagers’ vision of life; Yunnan Province



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1. Introduction

For a long time, China’s urban-biased development strategy has exacerbated the problems of fragmentation of rural living space, disruption of production functions, and imbalance of the ecological environment, and there is an urgent need to reconfigure the rural “Ecology-Living-Production” system [1]. In response to this, the 19th National Congress of the Communist Party of China (CPC) proposed for the first time the “rural revitalization strategy” [2], and the essence of the implementation of this strategy can be regarded as rural human settlement reconstruction. However, it should be fully recognized that the rural status quo and development conditions are different and that in some places, there are problems such as large investments, low effectiveness, and short-term results, which pose a risk to the sustainable development of local villages, so how to identify and respond to the differentiated demands is a major problem in today’s rural construction [3–6]. Furthermore, the blind upgrading of villages and the focus on a single physical environment have led to a contradiction between the upgrading of the rural human settlement and the relative shrinkage of the rural population [7–9], indicating that the lack of villagers’ main needs and the neglect of local values will further aggravate continued rural decline [10,11].

Rural construction represented by “beautiful villages” is a transformation from single-goal orientation to comprehensive goal orientation, where the needs of villagers are taken seriously, and the optimization of the rural settlement is accompanied by the enhancement of the villagers’ sense of local identity [12], which effectively improves the effectiveness of rural habitat environment construction. Therefore, in the context of the continuous rural shrinkage, how should the rural human environment be targeted to enhance the villagers’ sense of local identity and promote their local development? What factors of the rural human environment affect the villagers’ sense of local identity?

Yunnan Province is relatively backwards due to the inherent conditions such as closed transportation and scarce arable land caused by mountainous geography. Additionally, it is the most ethnically diverse region in China, with remarkable cultural diversity [13–15]. Therefore, exploring the relationship between rural habitat construction and villagers’ identity in the context of rural revitalization is of great significance in revealing the human–land relationship and targeted enhancement of the habitat environment in rural Yunnan Province. Based on this, this paper takes the rural habitat environment and villagers’ local identity in Yunnan Province as the research object, explores the spatial and temporal evolution process of the rural human settlement environment construction in Yunnan Province, digs deep into the intrinsic mechanism of the rural human settlement environment construction based on the concept of local identity, and identifies the factors that affect the villagers’ local identity in the rural human settlement environment, to put forward a targeted local strategy to provide theoretical guidance for the sustainable construction of countryside settlements [16–18].

2. Literature Review

2.1. Rural Human Settlement

Human settlement science is an independent science based on the Greek scholar Dosadias’ “Human Settlement”, which is based on the study of villages, market towns, cities, etc., by analyzing the interrelationship between people and their environment [19]. Rural human science is the organic combination of material and immaterial elements required for production and living in rural areas [20]. There are fewer foreign research results that really focus on “rural human settlement”, which mainly focuses on the rural settlement geography theory system [21], rural land use [22], reverse urbanization and rural migration [23,24], planning and construction of rural human settlement [25,26], and so on. Domestic research is more abundant, respectively, from the impact effect [27–29], impact elements [30–32], quality evaluation [33], remediation problems [34], remediation policies [35], and other aspects of the inner law of the rural human settlement environment, and its research perspective has also evolved from the geography of settlement pattern research to the perspective of multidisciplinary research.

2.2. Production–Living–Ecology

Production space, living space, and ecological space (referred to as the three living spaces) are the three basic elements constituting national land space and the three subsystems constituting the rural habitat system [36]. Among them, production space is the space whose main function is to provide economic output, mainly including agriculture, industry, commerce, services, etc.; living space is the space whose main function is to satisfy the needs of living comfortably, mainly including residences and ancillary facilities, etc.; ecological space is the space whose main function is to provide ecosystem services, mainly including watersheds, forests, grasslands, wetlands, etc. [37].

Comprehensive evaluation based on the three complex systems is an extension of the limitation of rural research to a single material level and is more applicable to the dynamic and sustainable development of the countryside [38]. Scholars at home and abroad explore the rural “Production–Living–Ecology” space evaluation system by combining the characteristics of local villages as follows: production space mainly reflects the modernization level of rural production by selecting indicators such as the proportion of working population [39], the agricultural income level, the fixed assets scale [40], etc. Living space

selects indicators of living security (rural Engel's coefficient, per capita residential floor space [41], and per capita disposable income of rural residents, etc.) and welfare security (number of hospital beds per 10,000 rural villagers, and proportion of land used for service facilities [40], etc.) to symbolize the rural living standard. Ecological space reflects the ecological services level in terms of the strength of ecological functions (forest cover [42], water resources per capita [43], climate, etc.) and the intensity of pollution (fertiliser application per hectare of arable land, pesticide application per hectare [44], etc.).

2.3. Living Vision and Local Identity

Scholars at home and abroad have found from the perspective of subjective–objective interactions in the study of the habitat environment that there is a deviation between the residents' subjective evaluation and the objective physical environment and that the evaluation of the human settlement environment purely in terms of the objective environment is not comprehensive [24,45]. Therefore, it is necessary to supplement the subjective evaluation of the human settlement environment with local identity and conduct research on the degree of matching between the two.

Local identity is the attachment of an individual or group to a place based on experience, memory, and attachment. It is often used in relation to those features that make places special or unique and those that foster a genuine sense of human attachment and belonging [46]. Different scholars have explored quantitative studies of local identity with varying indicators of measurement. Billig [47] and Liu Xue [48] focused on several aspects of residents' satisfaction and aversion to place. However, satisfaction has the limitation of static feedback [49], reflecting more on the residents' satisfaction with the current local built environment rather than their dynamic subjective willingness to the future human settlement.

Given the above, some scholars put forward the concept of "living vision" [49–56]. It reflects the current satisfaction and future development expectations of human settlement construction through the residents' futural willingness to live. Lin subdivided residents' living vision into willingness to live for a long time, willingness to move, and willingness to live forever, while other scholars considered generational differences to further propose willingness to live for generations [51,57]. They highlighted the degree of residents' recognition of the construction of the local habitat through their willingness to live there for a long time or even for generations [58,59]. However, the study found that the higher the level of rural habitat, the higher the willingness to relocate may be, reflecting the complexity of the living vision, which is different from both the objective evaluation of the human settlement construction and the subjective judgment of villagers' satisfaction. That is, the villagers' comprehensive recognition based on the local human settlement environment, which then rises to their future willingness to live, is often an ambiguous judgment process [60]. Therefore, making a composite expression based on the living vision to reflect residents' belongingness and identification with the local human settlement environment more stably is a new method of quantifying the local identity theory and even more of a new challenge.

3. Materials and Methods

3.1. Study Area

The study area of this paper is the rural territory of Yunnan Province (Figure 1), in which 40 typical sample villages are the focus of the study area. Yunnan Province is located in southwest China. On the east, it is neighbored by Guizhou, Guangxi on the north, Sichuan to the north, Tibet to the northwest, and Myanmar bordered by Laos and Vietnam to the south [61]. Since the 21st century, Yunnan's rural population has continued to decline, standing at 22,958,000 at the end of 2021 [62].

The 40 sample villages are located in central Yunnan (Kunming), eastern Yunnan (Qujing, Wenshan), western Yunnan (Dali), and southern Yunnan (Puer). Due to the terrain of the mountainous plateau and inconvenient transportation, the proportion of mountainous villages is as high as 90%, and the proportion of economically backward villages is 52.5%. In terms of regional distribution, most developed villages are located

in Kunming, the capital city of central Yunnan. Additionally, villages in western Yunnan benefit from Dali City's efforts to promote tourism services and rank second in terms of overall economic level. The dominant industry in the villages of the South Yunnan region is tea cultivation, and the villagers have a single source of economic income.

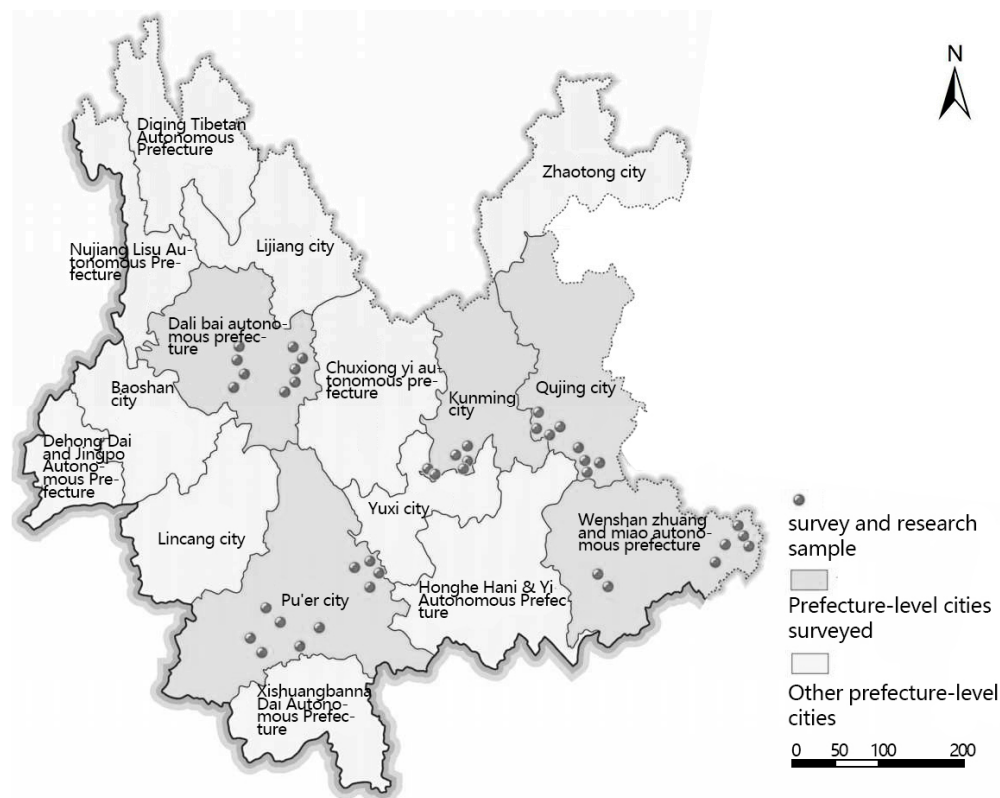


Figure 1. Distribution map of sample villages.

3.2. Data

3.2.1. Field Survey Data

This survey is a sample survey. The paper initially selected 3–5 administrative villages under each township as sample villages, based on the positional distance of each village from the township in which it is located, and ensured that the types of these villages covered the “high-average-low (average rural household income in the township)”. The field survey data included the villagers’ questionnaire and the village chief’s questionnaire. Among them, the villagers’ survey took the form of a random household survey, and the proportion of households surveyed was 80–90 per cent, ensuring that 15 valid questionnaires were obtained for each administrative village. In the end, a total of 699 villagers were interviewed, and 699 valid questionnaires were recorded. In this paper, some data on the three dimensions of socio-economics, living standards, and the ecological environment in the questionnaire are used to quantify the villages’ rural human settlement construction level, and the percentage of villagers’ choices of settlement or migration is used to quantify villagers’ living willingness to obtain the index of local identity of each village.

3.2.2. Statistical Data

China Urban and Rural development Statistical Yearbook (2015) (<https://www.yearbookchina.com/navibooklist-n3018021810-1.html>, accessed on 20 February 2023), China Statistical Yearbook (1997–2022) and Yunnan Statistical Yearbook (2001–2022) (<http://stats.yn.gov.cn/tjsj/tjnj/>, accessed on 25 February 2023), China Rural Statistical Yearbook (2001–2022) (<https://www.yearbookchina.com/navibooklist-n3022013271-1.html>, accessed on 1 March 2023).

3.3. Methods

Based on the temporal evolution of rural human settlement levels in Yunnan Province from 2001 to 2021, the study analyzes the contradiction of rural human settlement development accompanied by rural population shrinkage from the perspective of rural population structure and takes 40 villages in Yunnan in 2015 as the research object to further explore the motivation mechanism of rural human settlement development from the perspective of local identity. First, the study constructed an evaluation system of the level of rural human settlement in typical villages based on the “Production-living-Ecology Theory” and summarized the characteristics of rural human settlement development in 2015; secondly, based on the “life vision”, a comprehensive evaluation system of the local identity index is constructed to analyze the differences in villagers’ life vision and local identity characteristics in Yunnan in 2015. Finally, a multivariate linear regression analysis was conducted between the village human settlement index and the local identity index to determine the factors affecting the local identity of village human settlement and then explore the driving mechanism of village development (Figure 2).

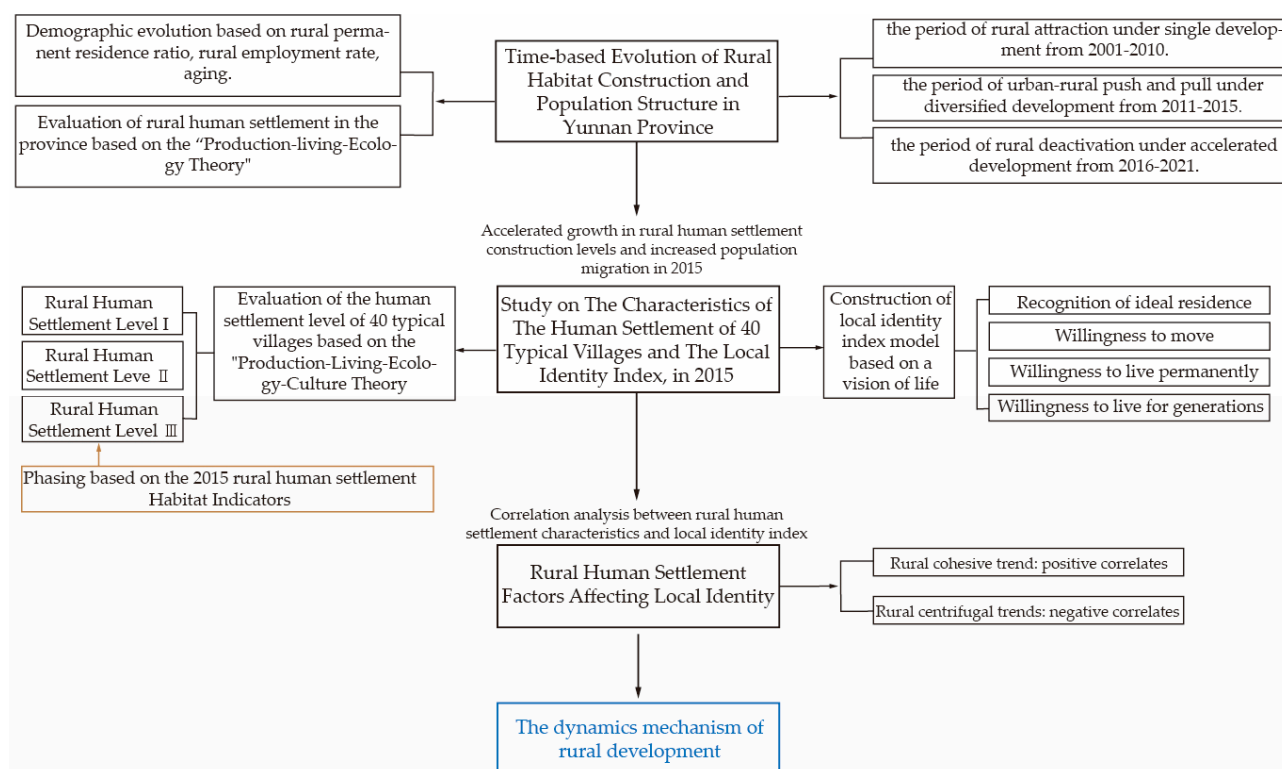


Figure 2. Analysis framework.

3.3.1. Time-Based Analysis of Rural Human Settlement Development and Population Structure

- (1) Building a provincial evaluation system for rural human settlements based on the “Production-living-Ecology” theory [63]. The ecology layer considers the negative impacts of rural agricultural pollution; the living layer reflects the villagers’ quality of life in four dimensions: infrastructure, living conditions, public services, and standard of living; the production system layer takes into account basic agricultural production and the vitality of a diversified economy.

In this regard, the indicator layer of the index system adopts the entropy weight calculation method, while the system layer (the “social and cultural” indicators cannot be constructed due to the lack of effective statistical indicators) and the support layer are determined by the hierarchical analysis method and the expert scoring method. The indicator framework is as follows (Table 1):

Table 1. Provincial human settlement level evaluation system.

Target Level	System Level	Tier 1 Weight	Support Layer	Secondary Weight	Indicator Layer	Attribute	Tertiary Weight	Combined Weight
Level of rural human settlement development	Ecology	27.74%	Ecosystem services	41.18%	Provincial forest cover	+	33.26%	3.80%
					Provincial water resources per capita	+	34.18%	3.91%
					Artificial forest area per 10,000 people	+	32.56%	3.72%
			Anthropogenic pollution	58.82%	Pesticide usage per capita	—	31.80%	5.19%
					Fertilizer usage per capita	—	32.07%	5.23%
					Direct economic losses of natural disasters per capita	—	36.13%	5.90%
	Living	39.63%	Infrastructure	24.62%	Rural fixed asset investment per capita	+	25.47%	2.49%
					Total agricultural financial expenditure per capita	+	24.91%	2.43%
					Proportion of villages with tap water	+	26.87%	2.62%
					Total reservoir capacity	+	22.74%	2.22%
			Living conditions	28.96%	Residential building space per person	+	35.42%	4.07%
					Investment in completed rural dwellings per capita	+	32.69%	3.75%
					Cost of a completed rural farmhouse	+	31.88%	3.66%
			Public Services	20.51%	Number of beds in health facilities per 10,000 rural population	+	31.63%	2.57%
					Number of old-age service facilities	+	35.71%	2.90%
					Rural postal delivery routes	+	32.66%	2.65%
			Living standards	25.91%	Net income per villager	+	19.85%	2.04%
					Wage income accounts for total income	+	19.73%	2.03%
					Consumption expenditure of villagers per capita	+	19.98%	2.05%
					Village Engel coefficient	+	20.53%	2.11%
					Ratio of urban–rural income	+	19.90%	2.04%
	Production	32.63%	Agricultural fundamentals	54.55%	Annual rural electricity consumption per capita	+	25.32%	4.51%
					Agricultural machinery power per capita	+	25.42%	4.52%
					Gross output value of agriculture, forestry, animal husbandry, and fishery per capita	+	25.39%	4.52%
					Capital investment in agriculture, forestry, animal husbandry, and fisheries per capita	+	23.87%	4.25%
			Economic dynamism	45.45%	Number of rural individual employment	+	19.70%	2.92%
					Number of employment in rural private enterprises	+	17.91%	2.66%
					Number of investors in rural private enterprises	+	19.83%	2.94%
					Proportion of people employed in the secondary sector	+	21.48%	3.19%
					Proportion of people employed in the tertiary sector	+	21.08%	3.13%

- (2) Analyze the shrinking trend of rural population from the rural permanent residence ratio, rural employment rate, and rural ageing. The rural permanent residence ratio reflects the degree of urban–rural population mobility, the rural employment rate reflects the vitality of local employment, and rural aging reflects the development potential. Finally, the analysis is segmented by combining rural human settlement and population evolution characteristics.

3.3.2. Analysis of the Human Settlement and Local Identity Characteristics of Typical Villages

(1) Typical village human settlement characteristics

Based on the field research villages, this paper evaluates the level of rural human settlement construction in each village from the four value dimensions: living, production, ecology, and social culture. Among them, the connotations of the living, production, and ecology layers are the same as those of the provincial rural human settlement evaluation system but with variations due to the different scales of the research object and the difficulty of obtaining data. The cultural system layer reflects local social relations through social networks, as well as regional culture through education level and cultural attributes.

The weighting of the indicators is calculated in the same way as the provincial human settlement level evaluation system. The framework system is as follows (Table 2).

(2) Local identity index framework

Based on questionnaires on villagers' visions, the paper summarized and analyzed the villages' life visions and constructed a "local identity index" on this to compound the various vision indicators.

The "vision of life" reflects the villagers' personal aspirations for the rural human settlement and the future development possibility of the village. Depending on the long-term nature of the goals, it can be divided into three levels of subjective willingness. The first level reflects the villagers' most direct subjective judgments, including ① the degree of recognition of ideal residence [64–66]; the second level reflects the secondary judgments under certain conditions, including ② willingness to move [67,68]; the third one reflects the villagers' dynamic identity, including ③ willingness to live permanently (permanent residence for oneself) and ④ willingness to live for generations [69,70]. The model is constructed as follows (Table 3).

Table 2. Evaluation system of human settlement in typical villages.

Target Level	System Level	Tier 1 Weight	Support Layer	Secondary Weight	Indicator Layer	Calculation Method	Attribute	Tertiary Weight
Human settlement development level in a typical village	Ecology	18.97%	Natural environment	44.44%	Topographical attributes of the village	Plains: 100%; hills: 90%; mountainous plains: 70%; mountains: 50%	+	45.43%
					Climatic attributes of the village	Subtropical: 100%; warm temperate: 80%; mesothermal: 50%; cold temperate: 20%	+	54.57%
			Artificial environment	55.56%	Sewage treatment method	Centralized treatment:3; household treatment:2; no treatment:0	—	28.15%
					Waste disposal methods	Transit: 5; incineration: 4; landfill: 3; open pile: 2; self-disposal or disposal: 0	+	30.37%
					Whether there are polluting enterprises within 5 km	No: 2; yes: 1	—	41.48%
	Living	31.62%	Infrastructure	23.42%	Hardened road per capita	Length of hardened intra-village roads/resident village population	+	13.87%
					Water supply method in the village	Centralized water supply in towns: 3; centralized water supply in villages: 2; no centralized water supply: 0	+	17.55%
					Whether the telephone penetration rate is above 90%	Yes: 1; no: 0	+	18.64%
					Whether there is public transportation	Yes: 1; no: 0	+	16.91%
					Proportion of villages with broadband access	Number of natural villages with broadband/number of natural villages under administrative villages	+	16.37%
			Living conditions	29.27%	Whether there are street lights	All: 100%; some: 50%; none: 0	+	16.66%
					Average housing size per household	Questionnaire result	+	16.09%
					Development quality	Number of better quality agricultural housing/total number of registered agricultural housing in the village	+	16.40%
					Network installation ratio	Questionnaire result summarization	+	14.94%
					Flush toilets ratio	Questionnaire result summarization	+	15.76%
					Independent kitchen ratio	Questionnaire result summarization	+	20.76%
					House facade painting ratio	Questionnaire result summarization	+	16.05%

Table 2. Cont.

Target Level	System Level	Tier 1 Weight	Support Layer	Secondary Weight	Indicator Layer	Calculation Method	Attribute	Tertiary Weight
Human settlement development level in a typical village	Living	31.62%	Public Services	21.29%	Average one-way distance to children's primary schools	Questionnaire result summarization	+	22.00%
					Whether there are public spaces for cultural and sports activities	Yes: 1; no: 0	+	26.77%
					Whether there are facilities for recreational activities available	Yes: 1; no: 0	+	17.86%
					Whether there is a senior center	Yes: 1; no: 0	+	17.97%
					Number of full-time village cleaners per 1000 population	Statistics data summarization	+	15.40%
			Living standards	26.02%	Net income per capita	Statistics data summarization	+	34.92%
					Whether there are more houses in the town	Questionnaire result summarization	+	30.49%
					Engel coefficient	Questionnaire result summarization	+	34.59%
			Agricultural fundamentals	44.44%	Average return on arable land	Questionnaire result summarization	+	49.04%
					Arable land per capita	Questionnaire result summarization	+	50.96%
	Production	22.32%	Economic dynamism	55.56%	Development progress of leisure agriculture and services industry	Under construction: 40%, progressing well: 100%, taking shape: 60%, progressing moderately: 40%, difficult to operate: 0%, ready to start: 20%, none: 0%	+	17.99%
					Rural resident/registered population ratio	Statistics data summarization	+	21.99%
					Proportion of labor age in the resident population	Statistics data summarization	+	21.20%
					Non-farm employment ratio	Questionnaire result summarization	+	19.18%
					GDP of the county/city in 2014 per capita	Statistics data summarization	+	19.64%
			Social relations	52.38%	Number of rural relatives and friends in the village	Questionnaire result summarization	+	51.86%
					The driving force of rural capable people	Capable and functioning: 100%, capable but not functioning 50%, incompetent: 0%	+	48.14%
	Social culture	27.09%	Local Culture	47.62%	Proportion of secondary school and above qualifications	Questionnaire result summarization	+	50.63%
					Rural historical and cultural attributes of the village	List of Chinese traditional villages: 100%, provincial historical and cultural villages: 70%, general traditional villages: 50%, non-traditional villages: 0%	+	49.37%

Table 3. Life vision model.

Levels	Basis of Judgment	Type
First level of subjective willingness (basic identity)	Is the countryside the ideal place for you to live?	Recognition of ideal residence
Second level of subjective willingness (positive identity)	Considering the real-life conditions, do you have any plans to move out of your village and settle in a town? (based on the “Yes” answers)	Willingness to move
	Do you plan to live in the village for the rest of your life? (based on the “Yes” answers)	Willingness to live permanently
	Where do you want the next generation to live? (based on the “village” answers)	Willingness to live for generations

“The Local Identity Index” (L) quantifies the extent to which villagers identify with their local life based on more specific composite indicators and a multi-level vision of life. The mathematical expression is as follows:

$$L = a \times (1 - b) \times (c + d). \quad (1)$$

Among them, a is the recognition of ideal residence, b is the willingness to move, c is the willingness to live permanently, and d is the willingness to live in the village. The degree of recognition of ideal residence reflects the most direct and basic identification of villagers based on their local life. Indicator $(1 - b)$ implies that villagers still choose to stay in the countryside after comparing social realities, reflecting their more positive identification with the countryside in the face of the urban-rural disparity. Additionally, there may be some villagers who are forced to choose to live in the countryside temporarily due to the limitations of their own survival skills rather than identifying with the countryside. However, in the face of the urban human settlement options available to their children in the future, the villagers still choose to live in the countryside for the rest of their lives and even hope that the next generation will live in the countryside, which is enough to reflect the villagers’ deep sense of identity and belonging to the countryside. In other words, the will to live there permanently and the will to live there for generations means that villagers have a dynamic identification with the rural future. It can be seen that there is a progressive relationship between “basic identity-positive identity-dynamic identity”, and from the logic of its linkage, villagers generally have a basic identity and positive identity in the village before a dynamic identity can be generated, so this paper adopts the unweighted multiplication combination to construct a comprehensive index of the degree of local identity. The advantage of the unweighted multiplication method is that it can strengthen the connection between multiple indicators by enhancing the clustering of the connotations of the indicators. For example, Costanza believes that system health (HI) is affected by system vigor (V), the system organization index (O), and the system resilience index (R) and that there is an interactive relationship between the three, so he innovatively proposes a system health index formula, $HI = V \times O \times R$, in an attempt to integrate multi-dimensional indicators to define the health of complex ecosystems [71].

A higher score on the local identity index (L) means that villagers have a higher degree of recognition towards their village, a stronger intention to live there permanently, and a higher likelihood of their children staying in the village; a lower score means that the villagers are more likely to leave the village and their children are less likely to stay in the village.

3.3.3. Research on Rural Development of Dynamic Mechanism Based on Local Identity

The paper used a multiple linear regression method to explore the potential factors between the “Local Identity Index” and rural human settlement construction. Thirty-six

rural human indicators of each village were selected as independent variables, and the local identity index of each village was selected as the dependent variable. Its calculation is as follows.

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k x_i + e \quad i = 1, 2, \dots, n. \quad (2)$$

Among them, $\beta_0, \beta_1, \dots, \beta_k$ are regression coefficients and the $m + 1$ parameters to be estimated, and e is the random variable (residual parameter).

Based on questionnaires on villagers' visions, the paper summarized and analyzed the villagers' life visions and constructed a "local identity index" on this to compound the various vision indicators.

4. Results

4.1. 2001–2021 Provincial Rural Human Settlement Development and Demographic Analysis

The level of rural human settlement development in Yunnan Province showed a general upward trend during 2001–2021. It increased from 0.452 in 2001 to 0.607 in 2021 (Figure 3), reaching 0.5 in 2015. During the same period, the ratio of rural permanent residence declined from 97.53% to 66.71%, with an accelerating overall downward trend, and the countryside in Yunnan Province entered the aging society as early as 2013 (7.23%). The opposing trends in rural human settlement level and population structure reflect that the existing construction of rural human settlement in Yunnan Province has had little effect and has not been able to effectively alleviate rural population outflow and ageing.

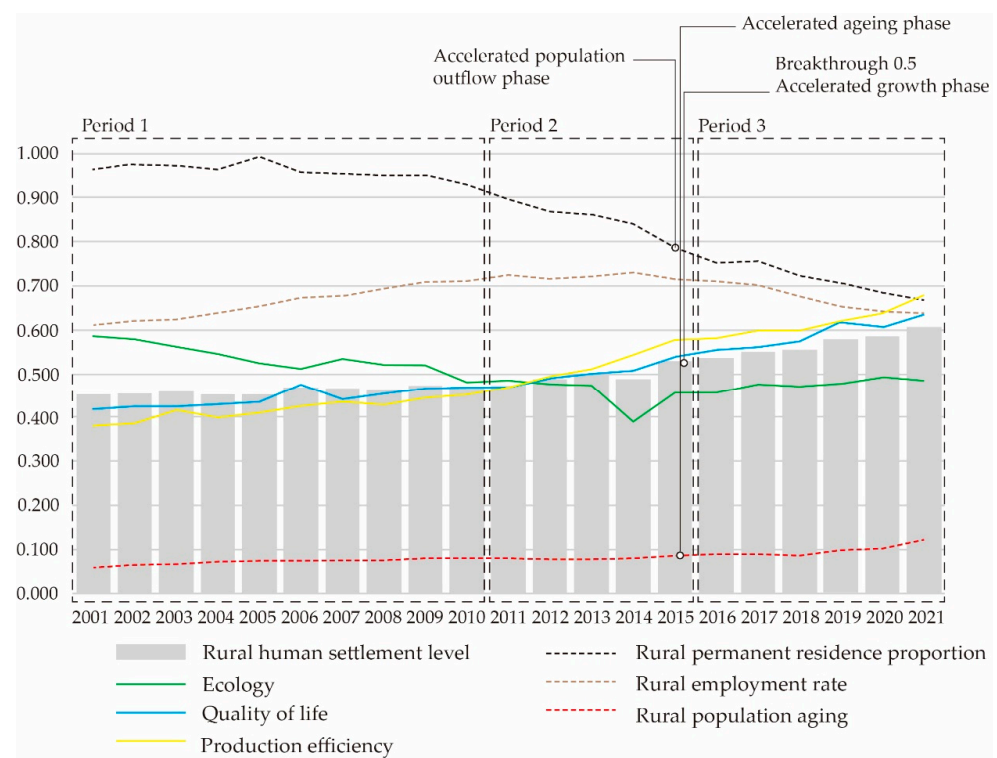


Figure 3. Evolution of rural human settlement and population outflow periods in Yunnan Province, 2001–2021.

Urban–rural population mobility is affected by employment and economy, housing conditions, ecological environment, and other aspects. It is helpful to understand the trend of rural population migration in Yunnan over different periods of time, combined with the changes in the “Production-Living-Ecology” system of rural human settlement. Between 2001 and 2010, the rural ecological environment index declined by 15.98%, while the rural resident ratio declined by only 3.2% over the ten years, and the local employment rate continued to grow. In the face of serious ecological pollution and the generally low level

of rural habitat, the outflow situation is relatively optimistic, and villagers prefer local employment. This paradox is mainly due to the low level of education of villagers during this period, who were forced to work in local agriculture. From 2011 to 2015, the rural resident ratio fell most significantly (2.76%), and the employment rate fluctuated; the rural population of Yunnan Province entered the accelerated stage. This is due to the strong development of the tourism service economy, the increased employment opportunities in cities, and the lower threshold of the service industry, which attracts a large number of villagers to work in cities. In conjunction with regional evolution, rural decline in Yunnan Province in 2015 showed east–west divergence differences. Western Yunnan showed the lowest (0.54%) (Figure 4), and central Yunnan showed the highest (3.98%), of which the capital city (Kunming) and the famous tourist city (Dali) had the most significant downward trends, which reflects that a strong urban industrial economy attracts people from neighboring villages; however, this aggravates the loss of rural talents.

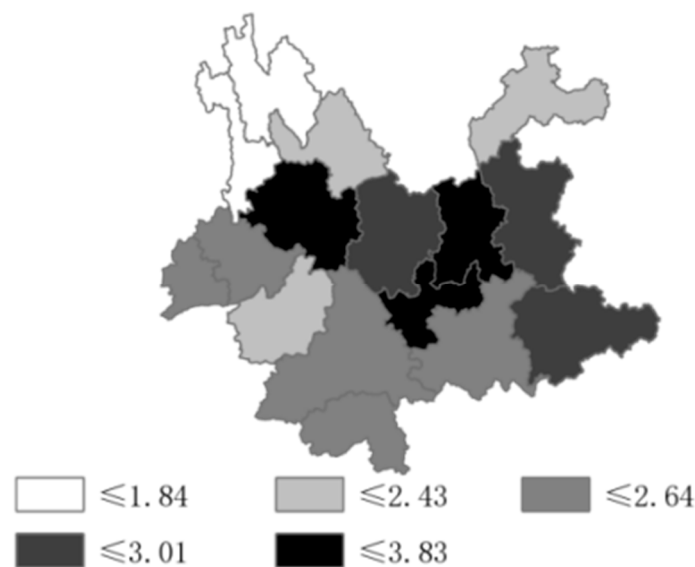


Figure 4. Distribution of the declining trend of rural permanent residence ratio.

The level of rural habitat in Yunnan Province exceeded 0.5 in 2015 and had the highest growth rate (2.34%) in the period 2016–2021, which shows that rural human settlement entered an accelerated growth stage in 2015, in which the productivity system played a leading role. Even though rural economic dynamism was stimulated during this period, there is still an inverted U-shaped downward trend in the rate of native employment in the countryside, and aging has entered an accelerated phase of increase. It was in 2015 that a large number of rural workers migrated in search of urban employment opportunities, and the age structure of the rural population accelerated, with the degree of aging surpassing that of cities. This shows that even though the rural human settlement level has reached a high level from 2015 to the present, it is still unable to effectively attract villagers to live and develop in the local area, proving once again that the existing rural construction is unable to effectively alleviate the unidirectional flow of the “urban-countryside” population, and is unable to adapt to the villagers’ future development needs.

4.2. The Human Settlement and Local Identity of Typical Villages Analysis

4.2.1. Human Settlement of Typical Villages Analysis

The average value of the rural human settlement index of 40 villages in Yunnan Province is 0.5, the highest is 0.558 (Daying village), and the lowest is 0.433 (North and South village) (Table 4). The development level of ecology and production is relatively lagging behind. It is consistent with the dynamic evolution of the level of human settlement in rural Yunnan from 2001 to 2021; that is, the overall ecological quality of the province has

shown a decreasing trend in the last 20 years, with the lowest increase in living standards. So, improving the synergistic development of production and ecology is required for the future.

Table 4. Evaluation results of the level of human settlement in typical villages.

Livability Type	Comprehensive Evaluation	Ecological Level	Living Standards	Production Levels	Literacy Level
Level of development	0.500	0.098	0.164	0.109	0.116

Given the wide variation in rural development in the province, this study defined the score bands to define the corresponding human settlement types and summarized their characteristics as follows (Table 5).

Table 5. Classification of typical village human settlement.

Human Settlement for Humanity Type		Human Settlement Level I	Human Settlement Level II	Human Settlement Level III	Overall
Judging standard		The human settlement index is significantly higher than 40 villages' average value, and the four dimensions' scores are higher than the average	The human settlement index above 40 villages' average value	The human settlement index Below 40 villages' average value	
Index	Comprehensive evaluation	0.521	0.501	0.462	0.500
	Ecology	0.106	0.098	0.092	0.098
	Quality of life	0.177	0.164	0.149	0.164
	Production efficiency	0.113	0.109	0.105	0.109
	Social culture	0.125	0.117	0.103	0.116

4.2.2. Analysis of the Local Identity Index Based on a Vision of Life

(1) Life Vision

In terms of the correlation between the vision of life and the level of rural human settlement (Table 6): ① there is a weak correlation between the recognition of the ideal place to live, the willingness to live for generations, and the index of the level of human settlement development; ② there is a significant positive correlation between the willingness to move and the level of rural human settlement development and the level of quality of life.

Table 6. Correlation analysis between life vision and human settlement.

Related Indicators	Recognition of Ideal Residence	Willingness to Move	Willingness to Live Permanently	Willingness to Live for Generations
General rural human environment level	0.154	0.382 *	−0.245	0.228
Ecology	0.059	0.300	−0.168	0.200
Quality of life	0.132	0.395 *	−0.234	0.169
Production efficiency	0.173	−0.011	0.031	0.055
Social culture	0.083	0.253	−0.182	0.137

Note: * indicates significant correlation at 0.05 level (bilateral).

Through correlation analysis of the life vision and three levels indicators of each typical village's human settlement, the indicators that are significantly correlated with the recognition of ideal residence, the willingness to move, the willingness to live permanently and the willingness to live for generations were obtained (Table 7).

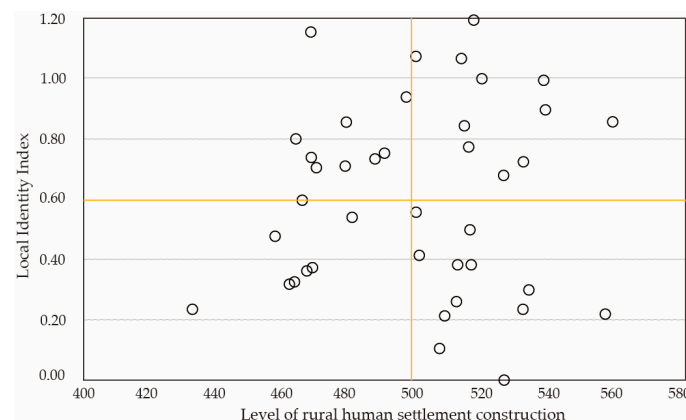
Table 7. List of three-level indicators of human settlement that are significantly related to the life vision.

	Related Indicators	Recognition of Ideal Residence	Willingness to Move	Willingness to Live Permanently	Willingness to Live for Generations
Ecology	Sewage treatment facilities				
	Waste disposal facilities	0.386 * (0.014)	0.343 * (0.03)	−0.361 * (0.022)	0.369 * (0.019)
Quality of life	Water supply facilities	−0.356 * (0.024)			
	Are more than 90% of households connected by telephone?	0.352 * (0.026)			
	Is broadband access available?	0.354 * (0.025)			
	Construction of street lights		0.341 * (0.031)	−0.321 * (0.043)	
	Percentage of network installations		0.532 ** (0.000)	−0.404 ** (0.010)	
	Toilet flush or not		0.483 ** (0.002)	−0.324 * (0.042)	
	House exterior painting				0.361 * (0.022)
	Whether there are public spaces for cultural and sporting activities	0.357 * (0.024)			
	Whether there are recreational facilities	0.394 * (0.012)			
	Engel coefficient	0.379 * (0.016)			
Production efficiency	Status of development of leisure agriculture and services in the village	0.377 * (0.016)		0.349 * (0.027)	
Social culture	Relations with family, friends, and neighbors	0.343 * (0.030)	−0.313 * (0.049)		

Note: ** indicates significant correlation at the 0.01 level (bilateral), and * indicates significant correlation at the 0.05 level (bilateral). The significance is shown in parentheses.

(2) Local identity characteristics

The categories were grouped into four quadrants, using the median of the local identity index and the level of rural human settlement development (0.6, 0.5) as cut-off points (Figure 5).

**Figure 5.** Scatter chart of local identity index and rural human settlement level combinations.

Zone I—high recognition and high human settlement level; Zone II—low recognition and high human settlement level; Zone III—high recognition and low human settlement level; Zone IV—low recognition and low human settlement level.

The level of rural human settlement in the villages of Zone I is high, and the first and second levels of human settlement account for 60% and 40% of the villages, respectively.

The level of rural human settlement in Zone II is also high, but the low level of recognition reflects the fact that better development of human settlement may not be effective in enhancing villagers' local recognition. In Dazhuang Village, which is a first-level village for human settlement, none of the villagers are willing to live in the village

for the rest of their lives, and 54% of them have plans to move, far exceeding the overall average (10%).

The level of rural human settlement in Zone III is medium, mainly consisting of level II and III villages. Despite the level of human settlement and satisfaction being medium or low, villagers generally have a high level of identification with their village, reflecting a relatively significant local values identity.

The level of rural human settlement in Zone IV is poor, which shows that a low level of human settlement makes it generally difficult to obtain villagers' recognition.

4.3. Correlation Analysis between Local Identity Index and Rural Human Settlement

We selected 36 typical villages' human settlement indicators as independent variables and the typical villages' local identity index the dependent variable and used SPSS software (IBM SPSS Statistics 25) to obtain a linear regression model of the local identity index, including six independent variables (Tables 8 and 9).

$$L = 0.127 + 0.077X_1 + 0.483X_2 - 0.217X_3 - 0.394X_4 + 0.259X_5 + 0.07X_6, \quad (3)$$

where L is the local identity index; X_1 is the progress of villages' leisure agriculture and service development; X_2 is the Engel coefficient; X_3 is the network installation ratio; X_4 is the GDP per capita of the county/county where it is located; X_5 is the house facade painting ratio; X_6 is the villages' historical and cultural attributes.

Table 8. Summary of multiple linear regression models.

R	R2	Adjustment of R2	Error in Standard Estimates
0.887	0.851	0.665	0.0783

Table 9. Parameters of multiple linear regression model for local identity index.

Independent Variable	Coefficient Values	Standard Error of Coefficients	Standard Coefficients	t	Sig.
(Constant)	0.237	0.125		2.112	0.016
X_1	0.065	0.018	0.388	4.125	0.000
X_2	0.457	0.131	0.312	3.128	0.003
X_3	−0.195	0.061	−0.591	−5.115	0.001
X_4	−0.331	0.081	−0.402	−3.128	0.000
X_5	0.198	0.085	0.296	2.356	0.006
X_6	0.068	0.023	0.135	1.989	0.018

4.3.1. Rural Cohesive Trend: Positive Correlates

There were five positive correlation factors in this multiple linear regression equation, and they were ranked from highest to lowest standard coefficient values as follows:

The extent of development of leisure agriculture and service industries (X_1) can contribute to a more diversified employment and income structure for villagers. The research found that more than half of the residents in villages that had not developed tourism indicated that they wanted to run "farm tourism and rural homestay". The villagers' high level of interest in leisure agriculture and services reflects a desire for higher incomes and higher industrial development levels. This new rural economy form, which provides employment and higher incomes, solves rural employment difficulties and contributes to the overall improvement of rural spirituality, with both economic and social benefits [72]. The Engel coefficient (X_2) in rural areas of Yunnan is higher than the national average (37.1%), meaning that the quality of life of rural Yunnan residents is still relatively poor, but the villagers' local identity index is higher. In combination with the above, this paper believes this is related to the fact that villagers are accustomed to a 'self-sufficient' lifestyle and their lack of self-cognition, reflecting that they are more likely to be self-satisfied and

develop local identity due to their current ‘static and settled’ lifestyle [73]. House facade painting (X_3) is a non-essential item and does not affect the actual use of the house, so villagers will decide whether to paint or not according to their own economic conditions and aesthetic needs. Therefore, the proportion of painted façades often reflects the living standard of the residents. However, the intervention of administrative forces in recent years on the proportion of house facades painted, such as the construction of “beautiful villages” in Yunnan Province during the 12th Five-Year Plan period, has resulted in the uniform painting of the facades of houses in many villages. Therefore, with the exception of a few villages where the entire village was painted due to “Beautiful Village Construction”, the proportion of painted house facades reflects the income and living standard of the villagers themselves to a certain extent and also reflects that the higher the income and living standards of the villagers, the higher the degree of local identity. Historical and cultural attributes of villages (X_4) reflect that the higher the traditional culture and historical value of the villages, the higher the local identity of the villagers. From the villagers’ responses to the question of “what should be preserved in the future development of the village”, more than half of the villagers believed that “traditional culture”, “traditional houses”, and “farmland landscape” were worth inheriting. Obviously, the local villagers’ sense of identity and belonging to their own village culture affects their future willingness to live there permanently. The more distinctive the historical and cultural characteristics are, the better the inheritance of traditional values is, and the higher the possibilities of long-term residence of villagers and their children will be.

4.3.2. Rural Centrifugal Trends: Negative Correlates

There are two negative correlation factors in the multiple regression equation: the network installation proportion (X_6) reflects the household living standard and the proportion of the non-farm economy of farming households, and it will accelerate the connection between urban and rural life and the flow of information and resources between urban and rural areas [74]. The network installation proportion will further encourage villagers to pursue a higher quality of life, which is most directly reflected in the purchase of a home in the town, increasing the likelihood of villagers moving to the town themselves and the willingness of the next generation to choose the town as a place of residence. As a result, the network installation proportion increases the ability of villagers to access information, accelerating the process of urban–rural integration and urbanization, but also, to a certain extent, weakening the rural local identity and becoming a centrifugal force in the local village. GDP per capita of the county/county-level city in which it is located (X_6) reflects the economic strength of different cities. A city with higher economic power means more employment opportunities and better living standards, and more villagers are willing to urbanize to increase their income levels.

5. Discussion

5.1. Stage Characteristics of Rural Human Settlement Development in Yunnan Province, 2001–2021

The causes of rural outflow are different in the three stages of rural construction in Yunnan Province. Throughout the evolutionary period, Yunnan’s countryside has undergone a building journey from a single agriculture-led, multi-industry economic development to a strong push for rural revitalization. Economic development and social progress change the villagers’ needs [75], from satisfying subsistence needs and raising employment income to improving the overall standard of living. Additionally, if rural construction fails to adapt to the changing needs of villagers, it often exacerbates rural outflow instead.

The development of rural human settlement in Yunnan Province can be divided into three major phases: rural attraction under a single development period (2001–2010), the urban–rural push and pull under a diversified development period (2011–2015), and rural deactivation under an accelerated development period (2016–2021). During the period of rural attraction under single development, the villagers’ living needs were

low and maintaining their basic subsistence was crucial. Restricted by education level, production skills, rural industrial structure, etc., the majority of villagers can only rely on farming for their survival. Therefore, even though the rural habitat is very backward, villagers are less mobile and prefer local employment. During the 12th Five-Year Plan period, the booming tourism service industry in Yunnan Province pushed the income gap between urban and rural areas wider [76], so the pursuit of higher-income jobs became the primary choice of villagers to improve their quality of life. The lack of dynamism in rural economic revitalization was the norm at this stage, so a new generation of villagers with relatively high vocational skills chose to work in cities, and rural mobility began to intensify. During the 13th Five-Year Plan period, Yunnan's countryside entered a period of rapid rural deactivation. With the vigorous promotion of rural revitalization, economic growth, housing improvement, and environmental optimization were implemented, but public service facilities in villages were absent, and the needs of villagers for public activities and spiritual activities were not met. At the same time, the accelerated aging of the population will pose a demographic obstacle to rural development, and the most critical problem is the loss of the local cultural vein and the rural spirit, and the countryside will lose the social foundation to support the migrant population to return to their hometowns, stay in their hometowns, and build their hometowns.

In summary, this paper casts doubt on the effectiveness of rural human settlement construction in Yunnan Province in the past. Although the level of ecological living and production space has increased, it seems to deviate from the ideal settlement of villagers. Especially in the critical turning period of 2015, when the level of rural human settlements accelerated dramatically, but at the same time, the population outflow and rural ageing accelerated. It can be seen that there has been an obvious cognitive discrepancy between the villagers' needs for future development and the rural human settlement construction at that time since 2015. Additionally, how to recognize the emergence of this "supply-demand" and the inherent factors in it is particularly crucial to the sustainable construction of rural habitat. Therefore, since 2015, what are the new needs of villagers in Yunnan Province for rural living environments? How can rural human settlement adapt to and meet the villagers' future development needs so as to "retain" villagers rather than "drain" them?

5.2. Rural Human Settlement and Local Identity Characteristics of Typical Village in 2015

5.2.1. Rural Human Settlement Characteristic

Adaptation of rural construction to the villagers' development demand should be based on a scientific assessment of villages' strengths and weaknesses. In view of the regional differences in typical rural development, the direction of rural human settlement construction is different at different stages. Therefore, this paper combines the subsystem index to classify the level of rural habitat in typical villages in 2015 into three grades (Figure 6) and analyzes the construction deficiencies of typical villages in terms of physical environment and socio-economic development.

The overall environmental level of the first-level village is significantly higher than the 40-village average, with the highest percentage of quality of life scores. These villages are rich in tourism resources or are close to cities, and through tourism services, raise village income and then invest in rural public service facility construction. The study also found that up to 80% of these villages have recreational facilities and centers for the elderly, providing villagers with diversified places for public activities. Compared with first-level villages, the ecology index of second-level villages dropped significantly. Most of these villages are traditional agricultural production types, and the improper handling of pollution from domestic production has led to the deterioration of native ecology. For this kind of countryside, promoting agricultural modernization to solve rural agricultural pollution is the foundation, and promoting rural industry diversification to enhance endogenous motivation is the key. Third-level villages are mostly small-scale mountain villages, and some of them are vulnerable to natural disasters, so their population loss is the most serious. The socio-cultural subsystem declined by as much as 18.07% from

the first level due to the scarcity of facilities and service packages. Moreover, local villagers generally have a low level of education, with only 27.1% of the villagers having a junior high school education or above, and rural development lacks innovative blood. To make matters worse, the local government's financial commitment is limited, and the average annual financial allocation to these villages is only 60% of the average. These villages should be scientifically analyzed to see if they can develop stably in the long term and may be appropriately guided to relocate their villages or to control the industrial positioning and provide more financial support [77].

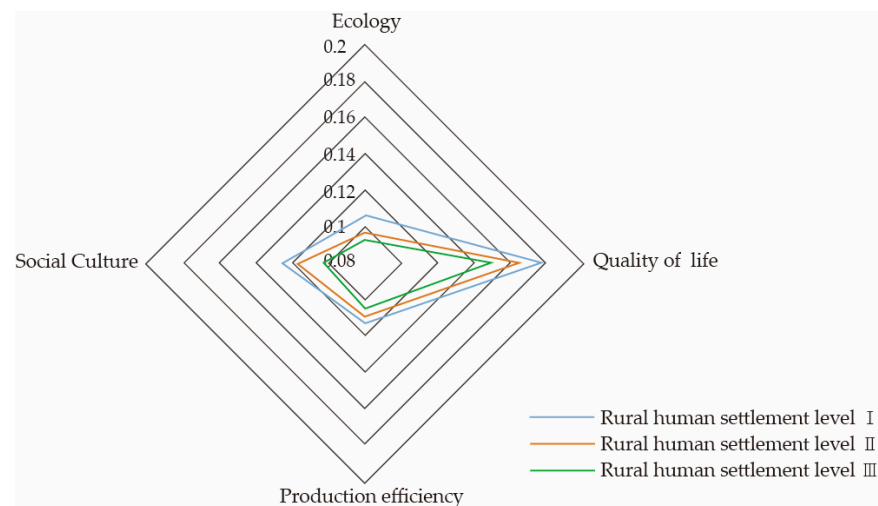


Figure 6. Three levels of rural human settlement evaluation radar map.

5.2.2. Local Identity Characteristic

(1) Evolution of the stages of “basic identity-positive identity-dynamic identity”.

How the rural habitat adapts to present living requirements and future development needs of villagers is often reflected in the villagers' living vision, which varies from villager to villager within the same village. Scientific judgement of a village's dominant living vision and preliminary analysis of the differences in villagers' needs for the rural habitat at different levels of living vision can help to promote the village's local identity from a “basic identity” and “positive identity” to deep-level “dynamic identity”, and to promote the retention of the rural population and even the return of a new generation of villagers in graded steps.

In terms of recognition of ideal residence, the most direct and basic identity, the “external (public) living environment” of the village is the basic judgement of villagers on the ideal place to live in rural areas, rather than housing construction and agricultural production, which suggests that public life is effective in enhancing local identity [78,79] and that villagers at this stage pay more attention to the identity brought by community public activities than residential conditions. This is contrary to the common view of Chinese villagers that rural housing is an important source of identity [80] because housing is a symptom of a deeper identity that satisfies one's own living conditions and embodies the prestige of the family [81], while the recognition of ideal residence is only an intuitive feeling of one's own personal living experience, so it is clear that the supply of public space and the realization of public value are the direct ways for villagers to improve their basic local identity at this stage.

The lower willingness to move reflects the more positive identification of the villagers. The results show that the comprehensive improvement of rural settlement has prepared the material basis for villagers to move to urbanization to improve their quality of life to a certain extent. Faced with the urban–rural gap, villagers will prioritize more employment opportunities, higher wages, and a better future for their children, all of which are difficult to provide in villages today, but the inherent local social culture of the countryside is a per-

manent spiritual support for villagers. Therefore, highlighting the strengths of vernacular social networks is a social factor that enhances positive rural identity at this stage.

The villages' sustainable construction needs to attract talent to stay for a long time, and attract villagers to live permanently or even for generations is especially crucial to building a sustainable and dynamic identity. Improving "Permanent residence" requires a stronger sense of confidence in local life and future development [82]. While there is a weak correlation between villagers' willingness to live somewhere permanently and the level of rural human settlement development, and the "development status of leisure agriculture and services industry" in the productivity dimension is the only positive correlation factor; that is, villagers at this stage do not simply decide whether to live somewhere permanently on the basis of the human environment, but pay more attention to the industrial and economic level, which is a realistic factor that affects long-term development [83]. The only way to consider permanent "settle down happily" is to be able to "work satisfactorily" [84,85]. In addition, the willingness to live somewhere permanently is negatively correlated with the proportion of internet installation, flush toilets, sewage treatment facilities, and street lighting, which have similar characteristics to the willingness to move. In contrast to the willingness to live permanently, the issue of the next generation's settlement has become a central problem for the sustainability of the village. From the research of 40 villages in Yunnan, the return of the first generation of urban workers has already occurred, but the rural younger generation still aspire to live in the city, and they are better able to integrate into urban life, so they are less likely to return to the village than their parents to some extent [86]. Therefore, in addition to the construction of physical space and favorable economic development, it is necessary to guide the evolution of rural lifestyles and cultural values to meet the younger generation's needs [87], to break the value perception of the younger generation that the countryside is uninteresting and closed, and to guide them to take the countryside as an opportunity and space for personal development [84].

In summary, this paper combines the typical village habitat construction stage in Yunnan Province in 2015 to argue that improving rural industrial development and meeting villagers' public needs are the top priorities for easing rural outflow. However, as China enters the second half of urbanization, we cannot afford to underestimate the importance of nurturing the next generation of rural builders. How to solve the problem of intergenerational permanent settlement and avoid allowing rural areas to go down the road of continuous population loss is a major challenge for rural sustainable development. How to guide the rejuvenation of rural life and the diversification of rural values to solve the problem of intergenerational settlement is the next stage of the task of promoting rural population return.

(2) General Local Identity Index Characteristic

The results further reveal that the measurement system of rural human settlement level does not reflect the local identity well, which explains, in part, the improvement in rural settlements and the continuing contraction of the population from 2001 to 2021. The value of local identity encompasses the level of the physical built environment, its satisfaction and life vision, and has a multi-dimensional influence mechanism. For example, different dimensions (production, life, ecology, and humanity) reflect unique local values for villages at different stages of development and cultural backgrounds and produce different spiritual affiliations for villagers. Therefore, to improve the local identity of villages, it is necessary to carry out rural habitat construction in accordance with local conditions.

From the quadrant of the local identity index and rural human settlement, villages in different characteristic zones should adopt different development measures. Villages in the first quadrant with a high level of local identity and a high level of rural human settlement should continue to maintain their development trend and guide towards the characteristic direction of human settlement to promote the evolution of basic identity towards "permanent residence and world domicile". Villages in the second quadrant with a low level of local identity and a high level of rural human settlement should pay attention

to the balance of human settlement development, pay attention to the improvement of the soft power of the village such as education environment and cultural heritage, and strengthen the inter-generational inheritance of local culture. Villages in the third quadrant with high local identity and low rural human settlement should identify their shortcomings and concentrate resources on the targeted development of the rural human settlement. Villages in the fourth quadrant with low local identity and low rural human settlement should be the focus of local township governments to judge the suitability of villages. If necessary, villages can be relocated and merged, and those that need to be retained should be upgraded and have special industries planned.

5.3. Mechanisms of Influence of Rural Settlement on Local Identity

The previous article formulated village development strategies at various stages based on the dominant types of local identity in each typical village, but “basic identity-positive identity-dynamic identity” cannot represent the whole village’s local identity, and it is difficult to count the general local identity indices of each village one by one, so it does not have the feasibility of guiding the construction of other villages. Additionally, summarizing the rural habitat factors affecting local identity from the general local identity index, the composite multilevel indicator, can provide a universal guiding strategy for the sustainable construction of villages in Yunan.

Based on the cohesion–centrifugal dual-trend elements of the rural human settlement’s influence on local identity, this paper further concludes that:

- ① Rural human settlement development takes the economic income level as the underlying logic and the living standard as a symptom to further influence villagers’ local identity. This is consistent with the findings of previous studies; that is, regional economic vitality and average income are the basic factors influencing people’s residence choice. That is to say, people will choose the best living conditions according to their own income level in order to improve the living standard [88], and in conjunction with villagers’ needs at the stage of “desirable residency”, the improvement of living standards should be based on the “external public environment”, satisfying the above villagers’ needs can enhance local identity. Relevant studies have also shown that by 2021, although the high-quality development of Yunnan’s rural leisure industry will effectively reduce the income gap between urban and rural areas [89], employment channels will still be unable to meet the needs of the younger generation. Therefore, improving general rural local identity should focus on expanding rural employment channels to promote rural economic development and focus on “public space” to improve living standards.
- ② There is a dynamic relationship between the villagers’ local identity and their own cognitive level. This finding is different from the notion that subject identity is influenced by space [90,91], and this paper argues that local identity is also influenced by the subject’s cognitive level at different stages. For example, the villagers’ cognitive level is relatively low at the stage of satisfying the basic subsistence level, and it is easy for them to have a sense of contentment about the improvement of their living standard and with the improvement of rural construction, especially the gradual popularization of the rural network, the villagers’ life tends to be more urbanized. However, since the 21st century, urban residents’ rural perception has also changed. Tourism and leisure, beautiful environment, pension and livability, etc., have become the new business cards of Yunnan villages, and rural life has become the spiritual support of urbanites. Therefore, it is necessary to guide rural lifestyle to adapt to the needs of returning urban residents and to enhance the villagers’ cultural confidence in rural life, which can change the cognitive impression of urban and rural residents on rural lifestyles and then improve the common identity of urban and rural residents on rural life and culture.
- ③ There is a realistic contradiction between the trend elements of rural human environment construction, urbanization, and village-level enhancement, which may instead

reduce the local identity. This particular finding cannot be separated from the current social context of China's large urban–rural divide. Even though Yunnan has made progress in rural revitalization, the huge urban–rural push–pull difference still attract villagers to neighboring cities or provincial capitals. Therefore, the large urban–rural gap will remain the biggest obstacle to the effective improvement of village identity in the rural habitat for a long time to come.

- ④ The preservation and continuation of village history and culture are conducive to strengthening the common identity of all villagers. Hometown, clan, village history, etc., constitute the village's local spirit, which is the spirit of unity (common identity) that transcends one's local identity in support of the migrant population to return to hometowns, to stay in hometowns, as well as to build their own hometowns. However, at present, the local culture of the village is on the verge of being lost and cannot adapt to the spiritual needs of the new villagers, resulting in the decline of the common identity and curbing the development of the rural human settlement. Therefore, in order to strengthen the common identity of villages, we should protect and repair the villages' tangible cultural heritage and, at the same time, promote the rejuvenation and diversification of village culture.

6. Conclusions

This study analyzes the chronological evolution of rural human settlement in Yunnan Province and examines the dynamics mechanism of rural development from the perspective of local identity based on the survey data of 40 villages in 2015. The main conclusions are as follows:

Firstly, based on the characteristics of rural human settlement development and the evolution of rural population structure in Yunnan province, the rural human settlement development is divided into three stages: a period of rural attraction with a single development, a period of urban–rural push and pull with diversified development, and a period of rural deactivation with accelerated development. The summary found that with economic development and social progress, the needs of villagers have also changed from satisfying subsistence needs and raising employment income to improving the overall standard of living. Additionally, from 2001 to 2021, Yunnan's rural human environment level was upgraded while the rural population relatively contracted, which shows that the construction of its human environment could not meet the villagers' living needs.

Secondly, living needs are often reflected in living vision, different levels of life visions reflect the multi-stage local identity characteristics of "basic-positive-dynamic", and villages with different dominant identity characteristics should build the rural habitat in stages. In the "basic identity" stage, villages should focus on the supply of public space and the realization of public values; in the "positive identity" stage, villages should continue to highlight the advantages of local social networks; in the "dynamic identity" stage, villages should focus on the revitalization of the rural industry and economy, and at the same time, should lead to the rejuvenation of the rural life and culture. From the comprehensive local identity index, the local identity of Yunnan villages is weakly correlated with the level of human environment construction, and villages with a high level of habitat do not necessarily have a high level of villagers' local identity. Therefore, to improve the comprehensive local identity of villages, it is necessary to carry out the construction of rural habitats according to local conditions.

Ultimately, this study obtained the cohesive–centrifugal dual-trend elements of rural human settlement construction that affect rural local identity through multiple linear regression equations and concluded the following conclusions based on this summary. ① The rural human settlement development takes the economic income level as the underlying logic, and the living standard as a symptom to further influence villagers' local identity. Therefore, the focus should be on expanding rural employment channels to promote rural economic development and investing in "public space" to improve living standards. ② There is a dynamic relationship between the villagers' local identity and their own cognitive

level. Rural lifestyles should be guided to adapt to the needs of returning city dwellers, and villagers' cultural confidence in rural life should be strengthened. ③ The large urban–rural divide will, for a long time, remain the greatest obstacle to the effectiveness of rural habitat in improving village identity. ④ The protection and continuation of village history and culture are conducive to the enhancement of the common identity of all villagers, and the rejuvenation and diversification of village culture should be promoted on the basis of the protection of village culture.

In addition, the research can provide a reference for the construction of human settlements in rural areas of other countries, and the targeted enhancement of human settlements is more conducive to strengthening the sense of local identity of the villagers and alleviating the trend of rural decline. However, there are differences in villages around the world, and the construction of the index system needs to fully reflect the local nature. At the same time, there are limitations in this paper; the indicator of permanent residence of the local identity index only reflects parents' desire for their offspring to live in the countryside, which cannot fully reflect the individual residential wishes of future generations. Therefore, future research can complement the new rural needs of the “new villager” group from the subjective perspective of future generations [92].

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