# Research on the construction of rural resource potential assessment system model based on NPH theory

Hao Peng<sup>1,\*</sup>, Jianhua Wang<sup>2</sup>, Xinlong Cui<sup>3</sup>

<sup>1</sup> Fine-Applied Arts and Cultural Science, Mahasarakham University, Mahasarakham, Thailand, pha66721@gmail.com

<sup>2</sup> Fine-Applied Arts and Cultural Science, Mahasarakham University, Mahasarakham, Thailand, jianhua222@163.com

<sup>3</sup> Fine-Applied Arts and Cultural Science, Mahasarakham University, Mahasarakham, Thailand,517037952@qq.com

\*Corresponding author,E-mail: pha66721@gmail.com

### Abstract

In the modern urban and rural development environment, the impact of urbanization has led to blind development of rural areas and excessive artificial behavior. Rural revitalization and utilization can effectively solve the problem of mechanical and stereotyped use of rural resources. However, in the actual activation process, there are also problems such as good and bad, widely different evaluation standards, and neglecting the basics. This article builds a rural resource potential assessment system model to stimulate rural potential resources and highlight rural characteristic elements based on reasonable activation of the countryside. It integrates the natural ecology, local spiritual culture, and healthy life of the NPH concept into the assessment system, and gathers keywords through Cite Space. Through three stages: category research, IBM SPSS factor layer and indicator layer credibility and validity analysis, and AHP analytic hierarchy process screening, a rural resource potential assessment system model was constructed to provide direction for rural activation and utilization.

Keywords: NPH theory, Rural resource potential, Assessment system model, Quantitative analysis



#### **1 INTRODUCTION**

Since the reform and opening up, my country's urbanization and industrialization have rapidly advanced, which has effectively promoted the rapid development of the urban economy, but at the same time, it has also profoundly changed the development pattern of regional rural areas (Wu, 2001). In the past ten years, to seek new development paths for rural areas, the country has promulgated many policies such as building a new socialist countryside, building beautiful countryside, and integrating urban and rural development (Dong & Hua, 2017). Because rural areas have different development advantages and resource potentials, to promote the revitalization of rural resources, it is necessary to coordinate the relationship between the landscape ecology and the human environment around the countryside to ensure reasonable utilization within the scope of affordability. While rationally utilizing rural resources, and potential resources The significance of the excavation is self-evident.

At present, domestic research on rural resource development types mainly describes rural development based on existing or formed characteristic resources (Zhou, 2013). The research results mainly focus on three aspects: First, the intensity of rural activation and utilization is excessive, big. As residents and local committees introduced a large amount of investment in tourism, entertainment, and other commercial capital (Wang & Feng, 2023), the villages renovated and reconstructed traditional buildings, traditional streets, and landscape ecology (Sheng & Liu, 2021), and lacked rural regional or national characteristics of culture. Integration, adhering to the principle of "maximizing economic returns", has resulted in serious damage to the ecological elements of the landscape (Ma & Gang, 2017), resulting in the loss of most of the traditional rural appearance and ecological environment, which has neither been well constructed nor well protected. Second, there is an ecological imbalance in rural revitalization and utilization. The countryside does not need to incorporate many "virtual cultural" elements. Excessive intake will lead to the loss of the historical and cultural atmosphere and bury the potential resources of the countryside (Yang et al., 2018). Rural transformation is too formal, maximizing visual effects but also maximizing landscape ecological damage, reducing landscape ecological recovery, and losing ecological footprint, leading to rural degeneration (Wu et al., 2020). Third, there is a lack of evaluation of rural revitalization and utilization. When constructing rural landscapes within the ecological environment, there is a lack of establishment of a systematic evaluation system (Xiang et al., 2023). Commercial capital is eager for the shallow economic income in front of them, not entirely out of reasonable planning intentions; villagers are concerned about the short-term environmental improvement, resulting in blind reconstruction and expansion, which has become a major resistance to the rural landscape and ecological construction (Wang et al., 2023).

Traditional protection or static development relies on rural natural scenery and regional history and culture. Single construction has long been unable to promote various needs of rural development. In the process of rural resource development, more attention is paid to the organic integration of landscape ecology, human-land interaction, and healthy life (Wang, 2014). The focus of the countryside has changed from the traditional static viewing mode to the comprehensive development that is more attractive, has higher participation, and is better ecological. To meet the changing needs of modern rural development, utilize rural potential resources, integrate into rural life, and promote the comprehensive development of natural ecology, regional culture, and healthy life, rural resource potential assessment has become a hot research direction for the activation and utilization of rural areas based on local conditions (Fang et al., 2023). Therefore, it remains to be explored to study rural development from the perspective of rural potential resource systems. This article starts with the relationship between nature, culture, and society, combines relevant literature and multiple case studies across the country, and then summarizes an evaluation system and systematic process for the construction and development of rural resource potential.



# 2 THE COMBINATION OF NPH THEORY AND RURAL RESOURCE POTENTIAL ASSESSMENT SYSTEM

#### 2.1 NPH system circulation

Professor Wang Yuncai of Tongji University first proposed the NPH landscape ecological theory. From the perspective of landscape planning, from the perspective of the human settlement environment, the landscape ecosystem can be divided into natural landscape systems, man-made landscape systems, and the overall human ecosystem (Wang, 2014). The NPH theory is mainly divided into three parts: N as natural ecology (Nature ), P as local spiritual culture (Place ), and H as healthy living (Healthy Living ), as shown in Figure 1.



Figure 1. NPH system cycle architecture.

Combined with the NPH theory as a framework, at the three levels of landscape ecological planning of natural ecology, local culture, and healthy life, it is refined into three-factor indicators of nature, culture, and society. These three-factor indicators can effectively cover the issue of rural revitalization. , can cross-think, closely connect, and embed closed loops in rural revitalization issues. It can not only effectively identify problems, but also tap resources and enhance potential, making rural revitalization issues directional and observable, and achieving sustainable and reasonable development.

#### 2.2 NPH theory and rural resource potential assessment carried out

Rural revitalization and protection are essentially homogeneous and related. Revitalization and protection themselves are intrinsic and are constituent factors in the rural background tradition. Relevant scholars have discussed: "Revitalization has two characteristics. One is stable development; The Second is the fluidity and variability of history." Any protection has actually become a kind of "activation" in a different direction. Paying too much attention to protection and neglecting activation and creation cannot achieve a real symbiotic effect. On the contrary, this directly leads to the inability of many villages to realize the maximum value utilization of their own potential resources. It is also unable to implement the organic integration of other potential resources, which may even cause cognitive bias and continuous damage to rural resources. The ideas and models of single protection or light activation and partial protection often lack an evaluation system to survey the demands of rural residents and fail to effectively respond to core demands such as industrial optimization and employment opportunities. Only by clarifying the content of the rural resource assessment system and catering to the needs of rural construction and potential resource characteristics of the countryside, strengthen-

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ing the advantages, making up for the disadvantages, and running through the entire process of rural development and construction, can we fully utilize potential resources, achieve rural revitalization and utilization, and achieve permanent resource symbiosis. continue to develop (Wang, 2014). Therefore, we need to innovate on the "integration of NPH theory and resource potential assessment system" to achieve effective adaptation of rural revitalization and utilization under the multiple development backgrounds of globalization, cultural dynamics, and new urbanization.

The NPH system not only unifies and coordinates nature, culture, and healthy life, but also assists in the revitalization and utilization of rural areas to stimulate rural vitality. It can also study the regeneration and ductility of rural resources, and provide certain references for the potential development of characteristic rural resources at a certain level. Value means preserving the village, tapping potential, and promoting rural development to be compatible with resource utilization. Rural revitalization cannot be limited to the spatial pattern of the countryside itself, thus downplaying the consideration of the potential resources and resource utilization value of the countryside itself. Therefore, the resource potential assessment system model should be based on feasibility theory and fully consider the user's cognitive ability and judgment ability about its indicators.

# **3 CONSTRUCTION AND IMPLEMENTATION OF RURAL RESOURCE POTENTIAL ASSESSMENT SYSTEM MODEL BASED ON NPH THEORY**

#### **3.1 Extraction of rural resource potential assessment factors**

Searching based on the CNKI theme "rural resources", 331 academic papers from 2013 to 2023 were selected for cite space keyword cluster analysis, as shown in Figure 2. Modularity Q=0.7815, Weighted Mean Silhouette S=0.9412. When Q>0.5 and S>0.7, it means that this picture is of research significance. Therefore, the original intention of the academic paper combined with the graphic discovery analysis is mainly to rationally integrate rural resources for rural tourism. With the rural cultural tourism and resource governance in the context of rural revitalization, the rational activation and sustainable development of the countryside are particularly prominent.

Combined with the keyword clustering factor analysis data, the frequency numbers were extracted to be 56, 47, and 16. For the keywords "rural tourism", "rural revitalization" and "rural governance" respectively, among the articles with the top three frequency categories, a Comprehensive selection of articles related to natural conditions, cultural elements, and social life, and combined to extract relevant factors.

Combining relevant literature research and analysis, it is concluded that the potential of natural resources is mainly analyzed and studied from the aspects of ecological environment, landscape space, and natural elements. There are also geographical features, landscape patterns, vegetation species, etc. in the countryside, so the protection and utilization of the natural features in the countryside should also be considered, and it should be consistent with the external environment of the countryside to form its unique style (Zhang & Fang, 2016). Therefore, the extracted natural potential factor layer includes indicators at both quantitative and qualitative levels, as shown in Table 1.

Category	Serial number	Secondary factor	Third-level factors (indicator decomposition)
Quantitative assessment	1	Natural richness	Rural spacing         Rural ecological farmland         Rural landscape         Species diversity
Qualitative	2	Natural observability	Viewability of water landscape Observability of ecological farmland
assessment	3	Natural adaptability	Natural pattern adaptability           Adaptability of traditional style

Table 1. Rural natural conditions resource potential index factor table.



Rural culture is the potential force for maintaining the existence and development of a vibrant rural atmosphere. It is an objective manifestation of rural ideology and reflects the inherent and spontaneous abilities in rural planning and construction (Wang et al., 2007). This article studies cultural factors in rural revitalization and utilization. Based on the selection of factor layer and indicator layer in relevant literature research, it is concluded that rural cultural potential factors need to start from both quantitative and qualitative levels, as shown in Table 2.

Category	Serial number	Secondary factor	Third-level factors ( indicator decomposition )
			Types of Intangible Cultural Heritage
	1	Cultural richness	Types of material cultural heritage Popular language
Quantitative			Folk art
-	2	Cultural heritage	A clear and representative inheritance
assessment			Traditional houses
	2	Scale of cultural heritage	Traditional streets
	5	Scale of cultural heritage	Historical environment elements
			Registering immovable cultural relics
Qualitative	4		Regional Features
assessment	4	Cultural typicality	National characteristics

Table 2. Rural cultural element resource potential index factor table.

The potential of rural society reflects the quality of rural healthy life. The core is the rural security pattern and the protection of the human settlement environment. It emphasizes that the rural spatial pattern promotes the development of social life and improves the level of living environment. It can be understood as the external aspect of rural life and social security. Reflection, protection mechanisms, and participation mechanisms are the inherent mechanisms of social potential (Li et al., 2023). Through relevant literature research, the social potential factors are mainly extracted from two levels: quantitative and qualitative, as shown in Table 3.

Catagony	Serial number	Secondary factor	Third-level factors
Category	Serial number	Secondary factor	( indicator decomposition )
			Agricultural income
	1	Economy Profit	Tourism revenue
	1		Industrial income
			Government subsidy
Quantitative			Renovate or protect mountains, rivers,
assessment	2	Fixes	and farmland
			Register and list historic buildings
	3		Compilation of township rules and regu-
		Protection mechanism	lations
			Establish a conservation committee
	4	x7'11 x ' 1	Villagers' favorability towards the village
	4	Villagers' social emotions	Villagers' pride in the countryside
			Degree of ecological and environmental
			protection education
	5	Villagers social education	The extent of rural landscape protection
			education
Qualitative			Villagers' active participation in ecologi-
-		Social participation mach	
assessment	6	Social participation mech-	cal environment construction
		anism	Villagers' active participation in rural
			landscape construction
			Rural flood prevention and disaster resil-
	7	Safe society	ience
	/	Sale society	Rural distribution space
			Traditional building community structure

Table 3. Rural social life resource potential index factor table.



#### 3.2 Reliability analysis of rural resource potential assessment factors

Conduct IBM SPSS Statistics 25 credibility and correlation analysis through self-set indicator factors for resource potential. Because the research process belongs to the epidemic stage, the number of expert assessments is limited. Only 10 experts and scholars in related fields will be distributed questionnaires about nature, culture, and society. The evaluators compare the correlation and importance of various indicator factors and assign scores one by one. They use the calculation matrix in YAAHP hierarchical analysis to obtain the weight of the indicator factors. Based on the layer-by-layer feature vectors, they determine the impact of various indicator factors on the research objects to which they belong. degree of influence (Wang et al., 2009). Therefore, the ranking of the impact of different index factors on the research objects was sorted out, and the resource potential factors for rural development were obtained. The credibility of all assessment data was analyzed and calculated through the Cronbach  $\alpha$  reliability coefficient. The formula is:

$$\alpha = \frac{n}{n-1} \left( 1 - \sum_{i=1}^{n} s_i^2 / s_i^2 \right)_{(1)}$$

In the formula, a is the credibility of the indicator, n is the number of measured questions,  $S_i$  is the variance of the *i*-th question indicator score, and  $S_t$  is the variance of the total test score.

Combined with IBM SPSS for credibility analysis, the Cronbachs  $\alpha$  reliability coefficient of the expert questionnaire on rural landscape resource potential assessment indicators under the NPH system was calculated to be 0.95, which is above 0.9, indicating that the self-set indicator factors have good credibility and the questionnaire content is reasonable and acceptable. Accepted, as shown in Table 4.

Total number of items	Sample size	overall α	Dimension α	Correct indicator content	Corrected term to total correlation	α after deleting items
		α=0.95	$\alpha_1 = 0.811$	Rural spacing	-0.241	$\alpha_1 = 0.89$
			$\alpha_2 = 0.936$	/	/	/
36	11			Traditional building		
50	**		α <sub>3</sub> =0.919	community struc-	0.394	α <sub>3</sub> =0.92
				ture		

Table 4. Evaluation factor credibility statistical data table.

Note: The reliability of dimension one is the resource potential of natural conditions is  $\alpha$ 1; the reliability of dimension two is the resource potential of cultural conditions is  $\alpha$ 2; the reliability of dimension three is the resource potential of social life is  $\alpha$ 3; the number of items is greater than the number of samples, so there is no need to perform KMO and Bartlett.

#### 3.3. Rural resource potential assessment factor weight calculation

The APH analytic hierarchy process is used to calculate the weight of the indicator factors, and the YAAHP auxiliary software is used to perform a weight analysis on each indicator of the resource potential assessment factor in the NPH system. The AHP analytic hierarchy process builds a matrix model through scoring by experts and relevant scholars and uses square roots to calculate and analyze the weight of individual indicator factors. During the calculation process, the consistency of the judgment matrix needs to be checked to reduce errors.

1)Construct an evaluation indicator factor hierarchical model

Combined with the article's selection of rural landscape resource potential evaluation index factors in the NPH system, the analytic hierarchy process is used to divide the evaluation index factors into three levels: first-level factors, second-level factors, and third-level factors, and construct a qualitative and quantitative quantitative hierarchical structure. Experts and relevant scholars analyze and comprehensively compare the relevance and impact of indicators at each level, and evaluate them layer by layer.



2)Use APH to establish a judgment matrix

Experts and relevant scholars consulted on the importance of natural conditions, cultural elements, and social life to resource potential in rural landscape ecological planning, obtained the relative importance of various indicators, and established a judgment matrix by comparing various indicator factors according to their relative importance. , calculate the feature vector, layer by layer, and finally obtain the weight values of various indicator factors(Zhang, 2021).

Set the evaluation research goal as A, evaluate the index factor set  $D\{d_i, d_2, d_3..., d_n\}$ , and establish a judgment matrix  $F\{A-F\}$ : the relative importance value of  $d_i$  to  $d_f$  (i=1, 2, 3..., n; j=2, 3, 4...n), the value of  $d_{ij}$  is as shown in Table 5.

d <sub>ii</sub> value	Meaning						
1	$d_i$ and $d_f$ are equally important						
3	$d_i$ is slightly more important than $d_f$						
5	$d_i$ is generally more important than $d_i$						
7	$d_i$ is very important than $d_i$						
9	$d_i$ is definitely more important than $d_f$						
$d_{ii} = l/d_{ii}$	represents the minor degree of <i>j</i> compared to <i>i</i>						

Table	5.	Judgment	matrix	im	ortance	value	table.
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In the NPH system, the potential assessment of rural landscape resources is the overall goal (A), and the important relationship between the first-level factor layer (B) is established through evaluation by experts and scholars, as shown in Table 6.

	Те	eacher	A			Те	acher	В		Teacher C				Teacher D				Teacher E				
А	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	A	1	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	A	A	$\mathbf{B}_1$	B <sub>2</sub>	B <sub>3</sub>	А	<b>B</b> <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	А	1	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>
<b>B</b> <sub>1</sub>	1	1/3	1	В	1	1	1	1/5	В	1	1	3	1/3	$\mathbf{B}_1$	1	1/7	1/5	В	1	1	7	9
$B_2$	3	1	3	В	2	1	1	1	В	2	1/3	1	1/3	B <sub>2</sub>	7	1	3	В	2	1/7	1	3
B <sub>3</sub>	1	1/3	1	В	3	5	1	1	В	3	3	3	1	B <sub>3</sub>	5	1/3	1	В	3	1/9	1/3	1
	Те	eacher	F			Te	acher	G		Teacher H				Т	eachei	r I			Teac	her J		
А	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	A	1	$B_1$	$B_2$	B <sub>3</sub>	A	A	$B_1$	$B_2$	B <sub>3</sub>	А	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	А	1	$B_1$	$B_2$	B <sub>3</sub>
$B_1$	1	1	1	В	1	1	1	7	В	1	1	1	7	B1	1	1/5	1	В	1	1	7	5
B <sub>2</sub>	1	1	1/3	В	2	1	1	5	В	2	1	1	9	В2	5	1	3	B	2	1/7	1	3
B <sub>3</sub>	1	3	1	В	3	1/7	1/5	1	В	3	1/7	1/9	1	В3	1	1/3	1	В	3	1/5	1/3	1

Table 6. First-level factor layer matrix table for rural resource potential assessment in the NPH system.

In the table,  $B_1$  is the natural condition factor,  $B_2$  is the cultural element factor, and  $B_3$  is the social life factor. The YAAHP auxiliary software is used to analyze the questionnaires of experts and relevant scholars, and the weight value of the first-level factor is obtained based on the matrix calculation analysis. The weight values of  $B_1$ ,  $B_2$ , and  $B_3$  are 0.36, 0.39, and 0.25 respectively, as shown in Table 7.

Table 7. First-level factor layer weight table for rural resource potential assessment in the NPH system.

First-level factors for comprehensive evaluation of resource potential	Weight value( <i>w</i> )
$B_{I}$ (natural condition factor)	0.36
$B_2$ ( cultural factor factor )	0.39
$B_3$ ( social life factor )	0.25

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#### 3.4 Optimal assessment scheme for rural resource potential assessment factors

When conducting a comparative analysis of relative importance at each level, there is a certain logical inconsistency. For this phenomenon, the consistency test in the APH analytic hierarchy process is passed. It is the negative average of the remaining eigenvalues except the largest eigenvalue ( $\lambda$ max) of the judgment matrix. value, combined with the obtained results, the integration degree C.I value is obtained, and the consistency index C.R is obtained from C.I. The calculation formula is as follows:

Largest characteristic root 
$$\lambda_{max} = \frac{1}{n} \sum_{i=1}^{n} \frac{(AW1)}{w1}$$
 (2)

Where n is the number of dimensions. For example, when the constructed judgment matrix is: nature, culture, society, n=3; AW is: the weight of the judgment matrix after normalization, and then the accumulated value by row.

Degree of integration C.I= $\lambda$ max-n/n-1 (C.I=0 means the judgment matrix is completely consistent. The larger the C.I, the more serious the inconsistency of the judgment matrix.)

The consistency index C.R=C.I/R.I (D{d1,d2,d3...dn} when C.R<0.1 indicates that the consistency degree of the judgment matrix A is considered to be within the allowable range. At this time, the eigenvector of A can be used to calculate the weight vector; if C.R≥0.1, it should Consider modifying the judgment matrix A (Xia, 2022).) Calculate the maximum characteristic root according to the judgment matrix sum formula, as shown in Table 8.

 Table 8. Integrated calculation of first-level factor layer for rural resource potential assessment in NPH system.

Tea	acher A	Tea	cher B	Teac	her C	Teac	cher D	Teac	cher E
λmax	C.R	λmax	C.R	λmax	C.R	λmax	C.R	λmax	C.R
3	0	3.30	0.26	3.14	0.12	3.07	0.06	3.08	0.07
Tea	acher F	Теа	cher G	Теас	her H	Teacher I		Tea	cher J
λmax	C.R	λmax	C.R	λmax	C.R	λmax	C.R	λmax	C.R
3.14	0.14	3.01	0.008	3.01	0.008	3.03	0.026	3.24	0.206

The maximum characteristic root  $\lambda max = 3.102$  was obtained from the matrix. When C.I=0, the evaluation judgment content tends to be consistent. The smaller the C.I value, the greater the degree of consistency. C.I=0.051 performs C.R verification and checks the R.I table, as shown in Table 9. It is known that when n=3, R.I=0.58, and then the consistency value C.R=0.087. From this, C.R<0.1 can be obtained, indicating that the above judgment matrix is consistent and the weight of each indicator factor is established.

Table 9. Random consistency index R.I. value table obtained by Satty simulation 1000 times.

Matrix order n	1	2	3	4	5	6	7	8	9	10	11	12
R.I	0	0	0.58	0.90	1.12	1.24	1.32	1.41	1.45	1.49	1.51	1.54

According to the above process, model operations are performed on the second-level and third-level factor layers in the same way, and the index weight values of each factor in the second-level factor and third-level factor in the rural landscape resource potential assessment index in the NPH system are determined in turn, as shown in Table 10 shown.



Target layer	First leve	l factor	Secondary f	actor	Third level factor	•
	Index	Weight	Index	Weight	Index	Weight
					Rural spacing	3.90%
			Natural richness	12%	Rural ecological farmland	3.80%
			Natural richness	12%	Rural landscape	2.40%
					Species diversity	1.90%
	Natural conditions	36%	Natural observ	vability	Viewability of water landscape	6.20%
			11%		Observability of ecological farmland	4.80%
			Natural adapt	ability	Natural pattern adaptability	7.30%
			13%		Adaptability of traditional style	5.70%
					Types of Intangible Cultural Heritage	4.50%
			Cultural ricl 12%	nness	Types of material cultural heritage	3.50%
					Popular language	2%
Assessment of rural land-					Folk art	2%
	Cultural	2004	Cultural heritage	6%	A clear and representative inheritance	6%
	elements	39%	Scale of cultural heritage		Traditional houses	3.60%
				12%	Traditional streets	3.10%
					Historical environment elements	2.90%
scape resource potential in the					Registering immovable cultural relics	2.40%
NPH system			Cultural	9%	Regional Features	5.40%
			typicality	<i></i>	National characteristics	3.60%
			Economy Profit	5%	Agricultural income	2.40%
					Tourism revenue	1.20%
			Leonomy i rom		Industrial income	0.60%
					Government subsidy	0.80%
			Fixes	3%	Renovate or protect mountains, rivers, and farmland	1.80%
					Register and list historic buildings	1.20%
	Social life		Protection	4%	Compilation of township rules and regulations	2.10%
	Social life		mechanism	7/0	Establish a conservation committee	1.90%
			Villagers social	3%	Villagers' favorability towards the countryside	1.60%
			emotions	570	Villagers' pride in the countryside	1.40%
			villagers social	3%	Degree of ecological and environmental protection education	1.60%
			education	370	The extent of rural landscape protection education	1.40%

Table 10. Rural resource potential assessment index factor weight value in NPH system.



			Social	20/	Villagers' active participation in ecological Environment construction	1.50%
Assessment of rural land- scape resource potential in the NPH system	Social life		participation mechanism	3%	Villagers' active participation in rural landscape construction	1.50%
					Rural flood prevention and disaster resilience	1.90%
			Safe society	4%	Rural distribution space	1.40%
					Traditional building	0.70%
					community structure	0.7070

Through the process of constructing the rural resource assessment factor model and determining the indicators, it was found that there are few rural resource potential assessment systems in rural activation and utilization, and there is a lack of objective system construction to guide rural development. In a large number of rural developments, the rural resource potential is not There are subjective judgments in the excavation and sorting out, which makes it difficult to highlight its characteristics in rural revitalization and utilization, showing a uniform phenomenon, making rural development slow, lacking its own characteristics, and not reaching a high-precision level (Wang, 2003). Combining the above theoretical support and objective extraction and quantitative analysis of indicator weights, a scientific and complete process system for formulating and evaluating indicators is constructed, which plays an important guiding role in later in-depth analysis of rural areas, making the survey content more feasible and the survey indicator data more accurate. It is objective and more targeted in tapping the potential of rural resources and provides reference elements and thinking directions in the design of improving rural activation and utilization.

## **4** Conclusions

The NPH system not only unifies and coordinates nature, culture, and healthy life, but also helps improve rural landscape ecology to stimulate rural vitality. It can also study the regeneration and ductility of landscape ecology, and provide certain ecological management for sustainable rural development at a certain level. The reference value not only protects the village, and taps resource potential, but also promotes the harmony and compatibility between the ecological environment and the rural landscape. The evaluation system cannot be limited to the spatial pattern of the countryside itself, thus downplaying the relationship between the countryside and the surrounding environment as well as the consideration of the potential resources and landscape ecological value of the countryside itself. This study focuses on the positioning of compatible symbiosis between countryside and ecology, classifying and screening rural potential resources and landscape ecological patterns, and constructing a rural resource potential assessment system model, which is conducive to subjective and objective evaluation of natural elements and humanistic elements, strengthening advantages and making up for disadvantages., throughout the entire process of rural development and construction. Overall, the rural resource potential assessment system is an important part of the rational activation and effective utilization of rural areas. Targeted activation and utilization based on local conditions is the purpose and the standard to be adhered to. Based on the NPH theory, the rural resource potential assessment system helps rural revitalization, promotes it in an all-around way, and analyzes it layer by layer, making the entire activation utilization and resource mining process objective and stable. This evaluation system construction process has clear goals, precise, objective, and effective countermeasures in the process of tapping rural resource potential, can better complete the coordinated development of urban and rural areas, and better provide guidance for rural development strategies.

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