

## Comprehensive Evaluation Model of Ecological Livability under the Background of Rural Revitalization

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**Abstract:** The country put forward the rural revitalization strategy, in order to guide the development of rural areas, the purpose is to solve the problem of unbalanced urban and rural development in the development of China, to achieve the common prosperity of urban and rural areas. Under the background of rural vitalization, the evaluation of rural development level can find out the problems in rural development, so that the follow-up can be targeted to solve, so as to promote rural development and achieve rural vitalization. The purpose of this paper is to put forward some Suggestions for the ecological development under the vitalization of rural areas by studying the comprehensive evaluation model of ecological livability. This paper first analyzes the important steps of rural revitalization, national development trend, rural development support system, and how the relevant government evaluates rural development. On this basis, according to the development requirements of rural vitalization, the rural development situation of a city is analyzed. Then, combining with the actual situation of rural areas, AHP and entropy value method are comprehensively applied to design the evaluation index system of rural development. The evaluation index system has three levels of indicators: industry, ecology, rural style, governance and life, 5 first-level indicators, 13 second-level indicators, and 30 third-level indicators. Taking 2018 as the base period, the base period score of each index is 75 points, and the ecological livability level of a city's rural area in the recent four years is evaluated.

### 1. Introduction

The necessity of rural vitalization is to change the status quo of rural weakness and realize rural development and prosperity. This is also one of the important reasons for the implementation of rural revitalization. Because of the imbalanced development between urban and rural areas, the development speed of rural areas lags behind that of urban areas. The decline of rural areas is mainly manifested in the decrease of the permanent population in rural areas, which leads to the lack of young adults in rural areas. At the same time, the permanent population in rural areas is aging, and the proportion of middle-aged and elderly farmers engaged in agricultural production is increasing. With the development of industrialization and the continuous advancement of urbanization, rural labor force has been transferred to cities and towns and separated from the agricultural field, which is an inevitable historical process caused by economic and social development. The development direction of this process is that all kinds of factors of production, such as labor force and capital of the young adults in rural areas, flow to the cities in one direction, especially to the economically developed provinces and regional central cities.

Michael Trebilcock starts by trying to show that the agricultural sector, especially in many developed countries, is unusually protectionist. Michael Trebilcock examines the main protectionist

measures adopted: domestic subsidies and price support, production restrictions and border measures; Briefly describe the principles of wto law applicable to these measures; Empirical evidence of the degree of protectionism prevailing in the agricultural sector in many countries was then investigated. Secondly, the main normative arguments that are usually offered for exceptional levels of agricultural protectionism are assessed: ensuring access to affordable food; Ensuring farmers' living income; Protect traditional rural lifestyles and communities. Michael Trebilcock finds that these are not particularly persuasive, either relative to many other sectors of the economy or in terms of the first best policy response to regulatory issues [1]. The transformation of urban and rural development is profoundly changing the socio-economic system and the natural environment. Using the analytic hierarchy process (ahp), Zhichao Hu constructed a top-down human activity index from five dimensions of population, land, industry, society and environment, and evaluated the spatial characteristics of the region east of huhuan line in 1994 and 2010. Then, the spatial and temporal patterns were studied by using hot spot analysis, local Moran's I index and Pearson correlation coefficient. The results show that the northeast region is experiencing economic recession during the study period, and the implementation of the revitalization plan has not controlled the recession trend. Pearson correlation analysis showed that the improvement of population quality significantly promoted the development of industry and social system during the study period. The change of population development index is negatively correlated with the change of population transition index [2]. Urban geology is an important basis for urban planning and construction in the whole process of urban management. To carry out urban geological survey is of great practical and strategic significance to promote new urbanization and ecological construction in the new era. M. Zhang according to the development stage of the city, the urban geological survey is divided into four stages: the bureau of special geological survey in the early stage of urbanization, the geological survey of hydraulic environment in the expansion stage of urbanization, the comprehensive geological survey in the rapid development stage of urbanization, and the geological survey of southern jiangsu in the quality improvement stage of urbanization. M. Zhang summarized the main achievements, characteristics and progress of urban comprehensive geological survey and multi-factor urban geological survey by reviewing the urban special geological survey and hydrologic engineering environmental geological survey in China [3].

Under the promotion of rural revitalization policy, it is of practical significance to study the phenomenon of rural ecological livability. Based on the research of the comprehensive evaluation model of ecological livability under the background of regional rural revitalization, this paper firstly expounds the necessity and rationality of rural revitalization policy, and further introduces the current situation of ecological livability in rural development. Secondly, the paper analyzes the conditions and realistic environment of ecological livability in the current stage of rural development, and then incorporates them into the experimental results to verify. On the basis of the above research, it provides corresponding Suggestions for the policy of ecological livability under rural revitalization.

## **2. Proposed Method**

### **2.1 Rural Revitalization**

#### **(1) Objectives**

We will ensure that rural areas are fully revitalized. Mainly include agriculture, countryside, farmer 3 respects. To fully revitalize the countryside, we need to make the countryside more beautiful, modernize agriculture and make farmers richer. This requires that the scientific connotation of the strategy should be accurately grasped in the implementation of the rvitalization strategy, and coordination, relevance, overall planning and coordination should be paid attention to in the implementation [4-5].

#### **(2) Requirements**

We will pursue integrated urban and rural development. Resolutely remove institutional shortcomings, making the market plays a decisive role in the allocation of resources, better give

play to the role of government, promote the urban and rural elements of free flow, equal exchange, makes a new industrialization, informatization, urbanization and agricultural modernization synchronous development, promote the formation of workers and peasants and promote each other, complementary between urban and rural areas, comprehensive integration, the common prosperity of the new urban and rural relationship of workers and peasants [6-7].

### (3) Concept

First, rural revitalization should give priority to the development of agriculture and rural areas. Therefore, to realize rural revitalization is the common will, common action, do know and ideological unity, moving in tandem, farmers demand on main body and cadres with priority to carry on the comprehensive consideration, in the main body and market factors on the reasonable configuration of enterprises and the farmers' demand preferentially and meet, in the public construction investment on public resources guaranteed, first priority and arrange funds for public service, to accelerate and supplement the current agricultural and rural. Second, rural revitalization should be guided and guided by the thought and concept of green and sustainable development, and uphold and realize the harmonious and healthy coexistence between rural people and nature. Firmly establish and earnestly implement the party practice of green water castle peak is the concept of jinshan silver and green concept of sustainable development, implement to the conservation of natural resources and protect the preference and priority of natural recovery of thought and policy, as a whole to ShanShuiLinTian HuCao ecological system, such as governance, adherence to rural ecological protection of the red, with thoughts and ideas for the sustainable development of agriculture and the green economy to lead the construction of modern agriculture and rural and revitalize. Third, the construction and revitalization of rural areas should be guided by the achievements of major scientific and technological innovation and supported by the concept of promoting green and sustainable development of rural areas, and the reform and innovation should be adhered to and deepened to stimulate rural vitality [8].

### (4) Establish a system

We will establish a sound mechanism for working on rural revitalization, with the central government coordinating efforts, provinces taking overall responsibility, and cities and counties implementing the mechanism. First, we will fully implement the main responsibility for market revitalization of socialist rural agriculture. We will further strengthen the main responsibility of party committees and people's governments at the central and local levels in thoroughly implementing the socialist rural revitalization strategy, and encourage leading officials at all levels to take the initiative and play an active role in rural revitalization. Socialist rural agriculture to revitalize the market work and medicine always adhere to the industry and agriculture together, urban and rural areas together, the work should fully reflect and adhere to the principle of giving priority to the development of industry, agriculture and rural areas. The second is to further strengthen the rural agricultural revitalization of the market work using the rule of law thinking to ensure. Local party committees at all levels and all departments of the people's government to be more adept at using the rule of law thinking and way of the rule of law to promote rural revitalization of work, strict administration according to law, and resolutely follow the current agricultural laws and regulations, in the planning of rural revitalization, the arrangement of the project, the use of funds, the supervision and administration of all aspects, such as to raise the level of our country revitalization under the rule of law. We will further strengthen legislation and the formulation of laws and regulations related to rural agricultural revitalization, and give full play to the role of legislation in ensuring rural revitalization, so that rural revitalization market work has laws to follow. We will further strengthen the construction of grassroots market law enforcement agencies and teams, strictly regulate market law enforcement, strengthen supervision and management of the market for rural vitalization, ensure that the market for socialist rural vitalization is orderly and orderly, promote social equity and justice, and safeguard the legitimate rights and interests of the masses [9-10].

## 3. Experiments

### 3.1 Experimental Background

The countryside, also called the countryside, is a unit of regional spatial organization relative to the city. Together, the countryside and the city constitute the whole regional space. Urban and rural development is an organic unity, urban development is inseparable from rural prosperity, and rural development also needs the city's drive. As a regional space that is different from cities, rural areas are characterized by relatively sparse population distribution, mainly agricultural industries, and lagging behind cities in infrastructure, education, medical care and sanitation.

Through to some city rural development situation, according to the countryside vitalization request carries on the analysis according to the industry, the ecology, the township style, the governance, the life five aspects, understood some city rural development basic situation. On this basis, the evaluation model of rural ecological livability in a city under the background of rural revitalization can be established, and the development of rural ecological livability in this city can be evaluated quantitatively by the model.

### 3.2 Experimental Design

In this paper, the evaluation of the livability level of rural ecology is divided into five parts: industry, ecology, rural style, governance and life. In this paper, on the choice of specific indicators, grasp the spirit of the strategy of rejuvenating rural, manifests the country revitalization strategy for rural development trend direction, grasp the focus of the national and jiangsu province rural revitalization planning requirements, in combination with the practical situation of municipal rural areas at the same time, considering the availability of evaluation index, design of rural ecological livable level evaluation system. AHP is to analyze complex problems, decompose problems into different factors, and merge these factors into different levels, forming a multi-level structure. The analytic hierarchy process is used to establish the mathematical model, and the following steps are followed:

- (1) Establish the mathematical model of hierarchical structure;
- (2) Construct judgment matrix in each level;
- (3) Calculate the weight vector of judgment matrix and conduct consistency test;
- (4) Calculate the combination weight vector and conduct the combination consistency test.

The evaluation results are shown in Table 1.

**Table 1.** Evaluation results

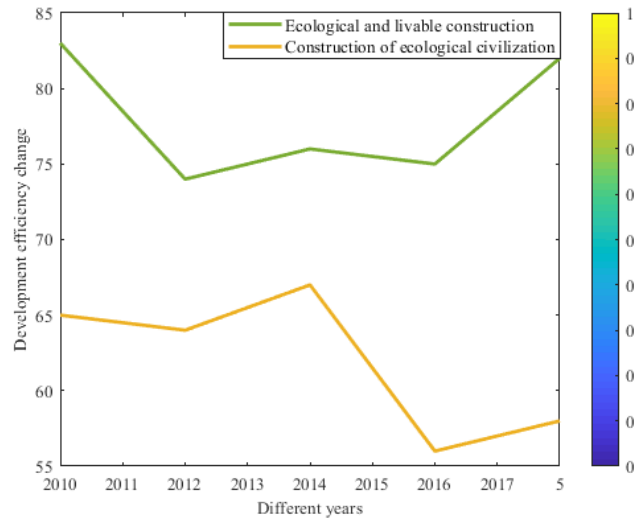
	Industry	Ecological	Local custom	Governance	Life
Industry	1	3	5	5	1
Ecological	1/3	1	3	3	1/3
Local custom	1/5	1/3	1	1	1/3
Governance	1/5	1/3	1	1	1/5
Life	1	3	5	5	1

## 4. Discussion

### 4.1 Comprehensive Evaluation Model Analysis of Ecological Livability under the Background of Rural Revitalization

As shown in Figure 1, the score of rural ecological livability in a city from 2014 to 2018 shows a slight decrease in 2015 compared with 2014, and a month-on-month increase in the rest of the year. The score of rural ecological livability in a city from 2014 to 2018 has been improved year by year

on the whole. The results of model evaluation are consistent with the overall trend of rural ecological livability in a city, indicating that the model evaluation results can reflect the actual level of rural ecological livability in a city to some extent, and the theoretical model is consistent with the actual situation. Therefore, the evaluation model of rural ecological livability can be used to evaluate the situation of rural ecological livability of a city through the test.



**Figure 1.** Level analysis of rural ecological livability in a city over the years

Through the analysis of the industrial prosperity index of the rural development of a city, it is found that the main problem of the rural development in a city is the slow development. Show in agriculture development speed is slow. In this regard, the development of a city's rural industry needs to make efforts in agricultural development. Develop ecological agriculture. In the past, the agricultural development model only focused on economic benefits, resulting in the neglect of environmental protection, rational use of resources, air, land pollution, energy and resource waste and a series of problems. The excessive use of chemical fertilizers gradually lost soil fertility. Secondly, it is necessary to form a stable and sustainable supply mechanism to protect ecological rural land. The construction of countryside should "want green water and green mountains, also want gold and silver mountains".

#### 4.2 Suggestions on the Comprehensive Evaluation Model of Ecological Livability Based on the Background of Rural Revitalization

Strengthening agricultural land planning to better reflect land values. Land is an important factor in rural production and natural resources. At present, there are problems such as scattered agricultural construction layout, extensive and inefficient land use, lack of public facilities and degradation of agricultural land in rural areas, which are related to the lack of comprehensive planning in rural areas. In this respect, we must do a good job in the compilation of rural land use plans. First, define the red line for arable land, that is, define permanent basic farmland, and strengthen the protection of basic farmland. Second, use the latest technology to carry out land use monitoring. The use of remote sensing image, information, big data analysis and other advanced technical means can be used for land use monitoring. Young volunteers from all sectors of society are also encouraged to provide voluntary services in the preparation of rural land-use planning.

### 5. Conclusions

Comprehensively promoting the development of ecological livability in rural areas is conducive to optimizing ecological development, benefiting people's livelihood, revitalizing industrial and urban areas, and improving social governance. This article from research a city in the revitalization of rural ecological livable model, to find a city rural, with emphasis on the existing problems in construction of ecological civilization, to explore the reasons for problems, through the literature

summary and analysis of its ecological livable construction history data and macro planning, integrated use of multi-disciplinary theory study. Firstly, it explores the connotation of rural revitalization and construction, and then sums up the characteristics of ecological livable construction in rural revitalization. Through the analysis of the status quo of ecological livable construction in a city, the problems and paths in the construction process are found. Finally, the paper explores the countermeasures of ecological livable construction in the rural revitalization.

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