

# Research on construction method of evaluation index system of rural revitalization

*Liwei Shan, Wei Chen, Qi Wang, Hong Wang*

Guangzhou College of Technology and Business, Guangzhou 510000, China

**Abstract:** The report of the 19th National Congress of the Communist Party of China put forward the implementation of the development plan of rural revitalization strategy, and emphasized the priority development of agriculture and rural areas, which need to establish a sound urban-rural integration development system mechanism and policy system, aimed at promoting the modernization of agriculture and rural development. It should be noted that the purpose of implementing the rural revitalization strategy is to effectively solve or link agriculture, rural and farmer problems, and then can promote agricultural development, agricultural prosperity. Based on this background, in order to ensure the smooth implementation of the rural revitalization strategy, it is necessary to build a scientific and effective evaluation index system, which can be used as a basis to deploy various elements of rural revitalization. First, it can provide a basis for various departments to carry out rural revitalization management; second, it can conduct real-time monitoring and evaluation of rural areas, and then sum up successful experiences. Excavate the existing problems and propose corresponding solutions on this basis to provide reference basis and practical experience for subsequent studies related to rural revitalization.

**Key words:** rural revitalization; Evaluation index system; Construction method

## Introduction

“Prosperous industry, livable ecology, civilized village style, prosperous life and effective governance” are the overall requirements for implementing rural revitalization, among which industrial prosperity is the core of economic construction, ecological construction is the foundation of people’s lives, a well-off society is the foundation of political construction, and rule of law governance is the sign of social progress. The above strategies and contents are put forward in response to the most core, fundamental and urgent problems in China at present, and are closely related to the overall layout of the “Five in one”, with strong pertinency and practicability. At the present stage, China has not established a complete evaluation index system in the process of promoting the rural revitalization strategy, which may cause economic, social and environmental problems due to excessive pursuit of form and scale. Based on this, it is necessary to build a scientific and perfect evaluation index system based on the evaluation research of new rural construction, aiming at a comprehensive, objective and in-depth investigation of the implementation of the rural revitalization strategy, so as to formulate follow-up practical policies based on the investigation results, and ultimately promote the sustainable development of the rural revitalization strategy.

### (1) The construction of agricultural products industrial

system as a carrier of integrated development of agricultural industries, agricultural products are not only the key basis for the innovation and development of agricultural industry, but also the practice site of agricultural socialization services. On the one hand, on the premise of rational and efficient distribution of factor resources such as people, land and money, emphasis can be placed on the development of agricultural industries, including grain, animal husbandry and aquatic products, in order to further improve the comprehensive productivity of agriculture, and at the same time, promote the continuous extension of the value chain of agricultural industries. On the other hand, the development of agricultural innovation can make the specialization and intensification level of agricultural industry continue to be improved, and promote the application and promotion of new agricultural technologies to a certain extent. With the increasing demand of people for the quality of agricultural products, higher requirements have been put forward for the development of the corresponding agricultural socialized service system, which can indirectly promote the development of the agricultural supporting industrial system.

### (2) Expand the function of agricultural industry

The construction of a multi-functional system of agricultural industry is not only an extension of the value of agricultural products themselves, but also an inevitable way to promote industrial integration. The integration of the three industries can not only guarantee the basic status of agriculture, but also improve farmers’ ability to increase income. Therefore, the development space of agriculture can be further broadened by developing the multi-functional industries of agriculture such as economy, society, ecology and culture, and open up a new road for industrial integration. In addition, the integration of the three industries is not a simple superposition, it needs to achieve mutual integration in agriculture, processing, tourism, service and other industries, so as to extend the agricultural industry chain and promote the development of agricultural industrialization in the direction of scale and organization. At the same time, higher requirements are put forward for social service functions, so as to promote the continuous improvement and optimization of the agricultural support industrial system.

### (3) Construction of agricultural support industrial system

With the continuous development of agricultural technology and information technology, the agricultural production field has gradually entered the era of digital economy, in which an information-based agricultural support industrial system can be built to promote the transformation and upgrading of the agricultural industry. It is necessary to fully realize that strengthening the construction of agricultural science and technology support system is an important guarantee to promote the quality and efficiency of agricultural products. Specifically

speaking, it can guarantee the quality and safety of agricultural products, improve the production efficiency of agricultural products, expand the production scale of agricultural products and increase the efficiency of agricultural operations, and ultimately effectively improve the quality and efficiency of modern agricultural development. It can lay a solid foundation for improving the quality and efficiency of agricultural products and the integrated development of agricultural industry. For example, the construction of digital information technology support system can realize the fine management and precision production of agricultural production.

## 1. Principles for building an evaluation index system for rural revitalization

The in-depth implementation of the rural revitalization strategy has gradually pushed the work into a new stage of development. At the same time, it is also facing more severe challenges. To this end, it is necessary to shoulder the historical mission and successfully complete the strategic task. First, the evaluation index system of rural revitalization should be tailored to local conditions and seek truth from facts. Second, the design of the index system of rural revitalization needs to actively learn from the advanced experience and methods at home and abroad, and respect the development law of rural revitalization in different countries. Third, the purpose of the implementation of the rural revitalization strategy is to promote people to live and work in peace and contentment, so it is necessary to fully consider the needs of the people to build an indicator system.

First, the scientific principle, that is, whether it is the construction of the index system framework, or the selection of indicators, deducing formulas, all need to be based on scientific theories and methods, therefore, it is necessary to adhere to the scientific principle, so that we can obtain real and effective information, and finally make the index evaluation system constructed more authentic. Second, the feasibility principle, that is, the indicators involved in the evaluation index system need to focus on the actual development needs of rural areas, so as to grasp the essence of rural revitalization, clear the connotation of indicators, and ultimately make the selection of indicators more simple and effective. In addition, the number of evaluation indicators should be controlled within a reasonable range, so that the evaluation system can objectively and comprehensively reflect the implementation status of rural revitalization, so as to facilitate subsequent optimization and adjustment. Third, the principle of comparability, that is, the evaluation indicators formulated need to be comparable, which can not only measure the progress of the implementation of rural revitalization vertically, but also analyze the differences in the level of rural revitalization horizontally, so that each region can find the gap, analyze the problem, and finally develop steadily. Fourth, the principle of emphasis, when formulating the evaluation index system, we need to grasp the main contradictions, choose the appropriate indicators around the contents of livable countryside, developing rural productivity, increasing farmers' income, etc., and finally implement the scientific outlook on sustainable development.

## 2. The construction method of evaluation index system for rural revitalization

### 2.1 Selection of evaluation indicators

In the process of implementing the rural revitalization strategy, teachers need to build a perfect system in the “three rural areas” as the starting point, so as to build a very systematic and objective rural revitalization evaluation index system, and finally provide a clear basis for the implementation of the rural revitalization strategy. Among them, it is necessary to conduct in-depth and perfect deconstruction and analysis of the rural revitalization strategy according to the five aspects of the general requirements from the theoretical perspective, and on this basis analyze from the perspective of practical application, so as to put forward more reasonable and feasible methods around the establishment of evaluation indicators.

On the one hand, the evaluation index selection. Based on the theoretical basis and practical needs of the aforementioned evaluation index system, the construction of the evaluation index system of rural revitalization strategy is mainly carried out from the following aspects: first, it reflects the strategic orientation. The rural revitalization strategy is a systematic project involving economic, political, cultural, social, ecological and other aspects. It is necessary to establish a rural revitalization strategy evaluation index system that conforms to China's actual conditions from the overall and long-term perspective. Second, safeguard inter-regional equity. The implementation of the rural revitalization strategy requires the same level of economic development across the region. The set of evaluation indicators should fully reflect the development differences among counties, avoid the use of indicators that reflect the common trend within the region, such as the total value and growth rate, and make different arrangements for economically developed and underdeveloped areas. Third, it is simple and easy to operate. It is necessary to fully understand the statistical data and information of the government departments before selecting the indicators, and obtain the indicators through formal channels, so as to avoid obtaining the indicators of data through research. Fifth, select independent evaluation indicators, in which indicators at each level are independent of each other, and the number of indicators should not be too much to avoid “multicollinearity” and “redundant information” and other problems.

On the other hand, the evaluation index selection process. First of all, the existing research literature and evaluation indicators need to be classified and summarized according to the evaluation content. Then, it is necessary to select the classified and summarized indicators according to the principle of index selection. Finally, a variety of channels can be used to query and statistical data information, aiming to complete the missing indicators in the evaluation content, so as to build a perfect set of evaluation indicators.

### 2.2 Evaluation system construction methods

In order to further improve the objectivity and effectiveness of the evaluation system of rural revitalization indicators, it is necessary to constantly improve it on the basis of learning from existing research theories and methods. It is not only necessary to consider the actual national conditions, but also to improve the evaluation efficiency. Among them, entropy weight-analytic hierarchy process can be

improved, and the index weights can be determined according to this method. Finally, TOPSIS can be used to calculate the index score. In other words, the analytic hierarchy process based on entropy technology is one of the comprehensive weighting methods. It aims to combine the advantages of entropy weight method and analytic hierarchy process, and finally get a more scientific and reasonable index weight. In this process, it is necessary to give full play to the advantages of entropy weight method, that is, to use the information entropy of data analysis to evaluate the importance of indicators, so as to reduce the errors caused by the limitations of researchers' cognition. In addition, the advantage of analytic hierarchy process is to analyze the results of the development status of the evaluation object, so as to avoid the distortion of data information entropy by other interfering factors. Finally, it can improve the orientation and comprehensiveness of the evaluation results. At present, some domestic scholars choose to adopt the specific path of entropy weight-analytic hierarchy process, which is to calculate the weights of various indicators according to the perfect steps of analytic hierarchy process, and then calculate the weights of indicators with the help of entropy weight method, so that the weight results obtained by analytic hierarchy process can be corrected. However, the above evaluation methods have certain disadvantages in micro or large quantity, resulting in large errors for some researchers due to the heterogeneity of the evaluation objects, and the entropy will also increase with the enhancement of the heterogeneity of the evaluation objects. This phenomenon is mostly caused by the differences in the environment where the evaluation objects live. Timely correction is needed to avoid weighting distortion and give full play to the reference value of evaluation results. Based on this, the author combined the existing experience and methods to improve and optimize the evaluation of entropy-AHP. The hierarchical structure model of evaluation indicators should be built first, and then the information entropy of data should be mined by entropy weight method, and the weight of indicators can be determined according to the information entropy, and then the judgment matrix of AHP can be calculated. On this basis, the staff of the research department can eliminate the interfering factors according to their experience and knowledge, build a standardized and reasonable judgment matrix, and finally calculate the index weight accurately.

### **Epilogue:**

All in all, from the perspective of modernization development, all localities should implement the "rural revitalization" strategy according to national policies and policies, aiming at promoting agricultural economic development, promoting farmers to live and work in peace and contentment, and laying a solid foundation for national construction and social development. Based on this, it is necessary to deeply analyze the connotation and characteristics of the theory of rural revitalization, and elaborate the principles and methods of the construction of the evaluation index system of rural revitalization, so as to objectively and truly reflect the level of rural revitalization construction, and provide a reference basis for the follow-up regional policy adjustment and sustainable agricultural development.

### **References:**

- [1] Yongyezhu Yu. Construction of evaluation index system of rural industry revitalization in Tibet -- Based on the empirical study of seven cities [J]. Central South Agricultural Science and Technology, 2022, 43(1): 122-126.
- [2] Xiaoyan Yi, Yinjun Chen, Yan Xiang, et al. Construction and evaluation of rural revitalization index system at county level: A case study of Deqing County, Guangdong Province [J]. Chinese Journal of Agricultural Resources and Regionalization, 2020, 41(8): 9.
- [3] Yujia Hua, Xiaoxu Ma. [J]. Rural Economics and Science and Technology, 2019, 31(17): 3.
- [4] Jinhuan. Mao. Improvement and empirical research on the construction method of rural revitalization evaluation index system [J]. Journal of Lanzhou University: Social Sciences Edition, 2021, 49 (3): 12