

Analysis and Evaluation of the Benefits of Rural Land Remediation Planning in China

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Abstract: Compared with land improvement performance evaluation and post evaluation, the essence of the former is to conduct predictive analysis and evaluation of events that have not occurred, while the latter can directly use indicator data that has occurred for analysis. This article conducts corresponding benefit analysis and evaluation of comprehensive land consolidation work through qualitative and quantitative evaluation, closely focusing on the goals and tasks of national land consolidation planning and provincial land use overall planning, and coordinating and arranging projects such as land consolidation, reclamation and development, and urban-rural construction land increase and decrease linkage. By utilizing urban land consolidation models such as old city renovation, we aim to improve the efficiency of urban land use and increase the effective area of urban construction land. In accordance with the requirements of the new rural construction, efforts will be made to strengthen land consolidation, concentrate on promoting land leveling and the construction of farmland water conservancy, field roads, and field protective forests, and effectively promote the scale and industrialization of agriculture; Efforts will be made to promote village renovation and form a new rural pattern with relatively concentrated housing and beautiful environment.

Keywords: Rural China; Land Improvement; Planning Benefit Analysis; Evaluation.

1. Introduction

With the continuous promotion of the central government's strategy of rural construction and overall urban and rural development in socialist China, rural land consolidation is defined as "comprehensive improvement of fields, water, roads, forests, villages and houses on the platform of land consolidation and the increase and decrease of urban and rural construction land". Benefit analysis and evaluation of land consolidation planning is an important part of land consolidation planning, which evaluates the role of land consolidation in economic, social and ecological aspects through scientific benefit analysis and evaluation of land consolidation planning. Of course, this is also an indispensable and important link in land consolidation planning [1]. The effect, benefit and response of land consolidation in solving the contradiction of "protecting the red line and development", improving the supply efficiency of land elements, and promoting rural construction and urban-rural coordinated development in China are not only an important part of land consolidation planning, but also issues of great concern to the government and the public [2]. The benefit evaluation of land consolidation is a multi-factor comprehensive evaluation, and its evaluation ideas are as follows: from many indicators, according to their importance, select indicators that can reflect the main problems and are easy to quantify, form an evaluation index system, and determine the index weight; On the basis of standardizing the original data, according to the weight of each index, the comprehensive index of land consolidation benefits is obtained, and the evaluation units are sorted according to the comprehensive index from big to small, and finally the level of land consolidation benefits is determined quantitatively. Judging from the existing research, scholars have carried out

a lot of research work mainly around the benefits of land consolidation projects. Most of the research objects are single projects after land consolidation. AHP, Delphi method and entropy weight method are used to construct indicators. Fuzzy model identification method and matter-element analysis method are used to analyze and evaluate indicators, and the economic, social and environmental benefits of completed land consolidation projects are evaluated [3-4]. Through qualitative and quantitative evaluation, this paper reasonably analyzes and evaluates the corresponding benefits of comprehensive land consolidation, and discusses the regional ecological environment and food security degree of land consolidation under the future global climate change, improves the level of land conservation and intensive utilization, and ensures the sustainable development of land consolidation. Therefore, through this research, the theory of land consolidation can be further enriched [5]. During the period of land consolidation planning, by improving the quality of cultivated land, we will increase the reclamation of abandoned land area, reduce soil erosion, increase the coverage of green vegetation, effectively protect the ecological environment, and restore the damaged land ecological pattern, thus fundamentally improving the overall ecological environment. In accordance with the requirements of the central government on promoting the coordinated development of urban and rural areas and the construction of new countryside, closely centering on the objectives and tasks of the national land consolidation plan and the provincial land use master plan, we will make overall arrangements for projects such as land consolidation, reclamation and development and the increase and decrease of urban and rural construction land, make unified arrangements for the scale, structure, layout and timing of land consolidation during the planning period, and formulate safeguard measures for the

implementation of the plan [6].

2. Analysis of the Benefits of Rural Land Remediation Planning in China

2.1. Analysis of Economic Benefits of Land Remediation

Land consolidation is the determination of land use based on understanding socio-economic needs and land use planning, and further research and improvement of land use methods, structures, and relationships. Therefore, a scientific land consolidation plays an indescribable role in alleviating the contradiction between people and land, as well as in the sustainable use of land resources. The rural land consolidation project is mainly divided into two parts: agricultural land consolidation and rural construction land consolidation. In the process of land consolidation planning, it is necessary to fully consider the overall financial investment, including labor investment, whether the overall planning is conducive to improving grain production capacity, increasing farmers' net income, revitalizing the stock of construction land, promoting the development of the primary industry, improving the regional investment environment, and promoting the development of the secondary and tertiary industries in the area. Comprehensive land improvement not only improves the basic conditions of agriculture, but also effectively increases the production capacity of grain [7]. It can turn abandoned gardens, hollow villages, abandoned industrial and mining land, unused land, graves, and other land into standard farmland and high-quality farmland, making good use of previously low or even abandoned land [8]. By renovating rural collective construction land, the land reclaimed must first be reclaimed into arable land; Secondly, it meets the needs of farmers to build houses, village infrastructure, and public service supporting facilities; Reserve enough land for the development of nonagricultural industries once again; Finally, using the policy of linking the

increase and decrease of urban and rural construction land, the surplus construction land indicators in rural areas will be adjusted to urban use, promoting urban development[9]. At the same time, the land differential income obtained should be returned to rural areas for new rural construction, forming a virtuous cycle.

2.2. Social Benefit Analysis of Land Consolidation

The social benefits of land consolidation on protecting cultivated land are mainly manifested in increasing cultivated land area, increasing per capita cultivated land area, building high-standard basic farmland area, protecting basic farmland, etc., thus enhancing the ability to ensure food security, which is conducive to ensuring food output and is of great significance to national food security [10]. On the one hand, land remediation can expand the cultivated area of farmland, improve the efficiency of irrigation and drainage of farmland, improve the efficiency of machinery operation and crop transportation, reduce the soil erosion area of farmland, enhance the ability of sand prevention and wind resistance of farmland, and finally improve the comprehensive production conditions of farmland and improve the natural quality of farmland. On the other hand, by promoting the mechanization and scale of agricultural production, the introduction of new varieties and the application of new technologies, the actual production capacity will be improved, that is, the utilization of cultivated land will be improved [11]. According to the different factors of land consolidation benefits and their importance, the evaluation index system and index weights are determined. On the basis of standardizing the original data, according to the index weights, the comprehensive index of land consolidation benefits is obtained, and the evaluation units are sorted according to the order of the comprehensive index from large to small, so as to quantitatively determine the level of land consolidation benefits. The process of land consolidation benefits evaluation is shown in Figure 1.

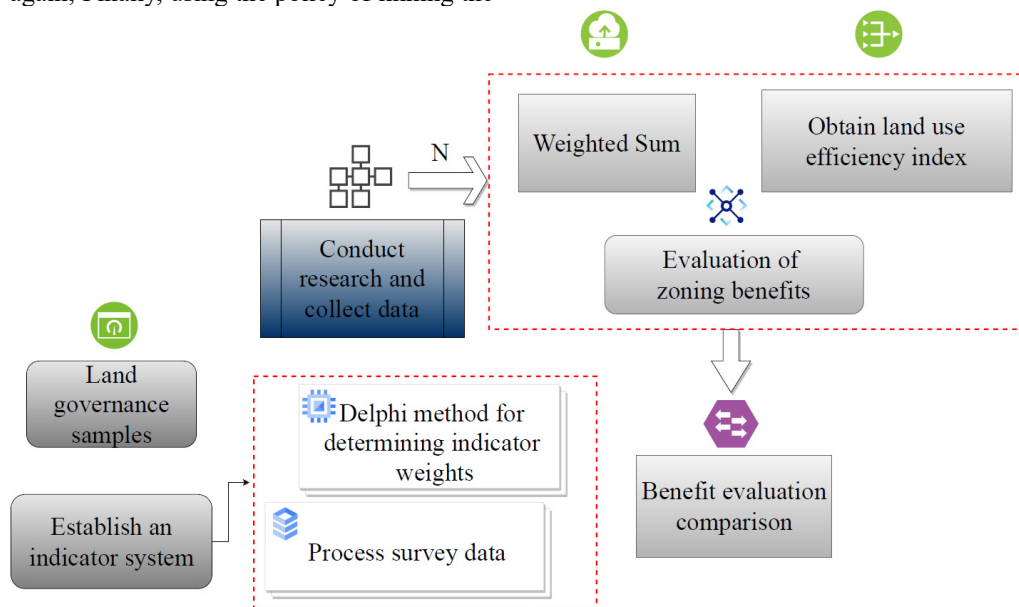


Figure 1. Process for Evaluating the Benefits of Land Remediation

The supply and demand scale of rural land consolidation funds will be affected by policy changes and economic, social and environmental factors. The change of these factors will cause the change of demand scale and supply capacity of land

consolidation funds, and destroy the balance between supply and demand of land consolidation funds. Therefore, in order to ensure the scientific and accurate financing scale of rural land consolidation, potential policy changes and economic,

social and environmental development trends should be taken into account when raising and managing land consolidation funds. Promote the coordinated development of urban and rural areas by improving efficiency and optimizing layout in a limited space. Through the arrangement of rural residential areas, we can realize the moderate concentration of agricultural population, guide farmers to build houses in central villages and towns, reserve development space for industrial clusters, and create favorable conditions for realizing rural economic development, rural civilization construction and development of rural land through merging villages and towns, withdrawing villages and towns, and transforming old villages, we can fundamentally ensure that the new countryside construction will not easily lose and waste land and accelerate the construction of new countryside.

3. Land Remediation and Evaluation of Land Remediation Benefits

3.1. Evaluation Indicators for Benefit Analysis of Land Remediation Planning

Land remediation work can comprehensively measure the progress of land through a reasonable and scientific evaluation index, and this process is the evaluation of the

benefits of land remediation. The social benefits of land consolidation refer to the impact on the social environment system and the macro social effects it produces after the implementation of land consolidation. The main content of social benefit analysis is all the social achievements provided by land consolidation for the social system. It is reflected in the expected analysis and evaluation of land consolidation planning in terms of improving the quality of human life, improving human production conditions, protecting rural arable land, developing the national economy, conserving natural resources, building rural areas in China, and coordinating urban and rural development. The specific planning benefit analysis and evaluation index system is shown in Figure 2.

The index level is to establish the evaluation index, which is usually established from fourteen aspects, namely, the increase of grain productivity, the revitalization of construction land, the balance of construction occupation and compensation, the saving of land area, the saving of water resources, the increase of mechanized cultivated land area, the increase of rural residential area, the increase of farmers' per capita annual income, the clarity of land ownership, and so on. Efforts will be made to promote village renovation and form a new rural pattern with relatively concentrated residence and beautiful environment.

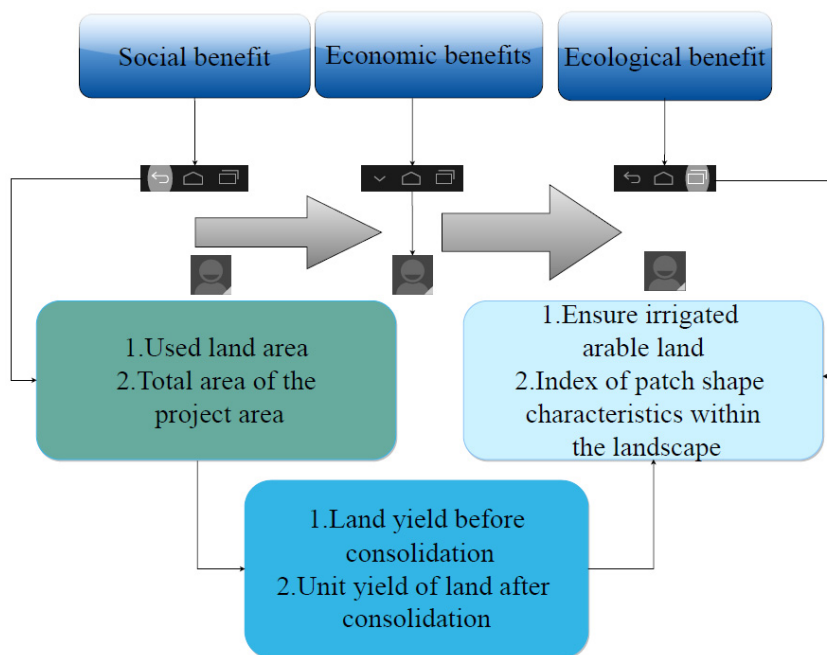


Figure 2. Benefits and evaluation indicators of comprehensive land improvement planning

3.2. The Establishment Basis of Benefit Evaluation Indicators for Land Remediation Planning

In terms of land resources, land consolidation is an effective method for rational utilization and improvement of land resources, which is also very suitable for the current national conditions of China. At present, some regions in China have adopted conservation policies and have indeed achieved a relatively reasonable utilization of land resources. Compared with land improvement performance evaluation and post evaluation, the essence of the former is to conduct predictive analysis and evaluation of events that have not occurred, while the latter can directly use indicator data that has occurred for analysis. Therefore, there are significant

differences in technical methods between the two. For the analysis and evaluation of the benefits of land consolidation planning, statistical prediction methods, analogy analysis methods, and expert survey methods need to be used. One of the important manifestations of land consolidation benefits is the efficiency of land conservation, mainly manifested in revitalizing the area of rural construction land through the linkage of urban and rural construction land increase and decrease, and reducing the inefficient use of rural homesteads. By utilizing urban land consolidation models such as old city renovation, we aim to improve the efficiency of urban land use and increase the effective area of urban construction land. The saving area of rural construction land mainly refers to the rectification and compression of the area of rural hollow village residential areas, idle homesteads, etc.; The

reclamation area of abandoned land mainly refers to the reclamation area of abandoned land damaged, collapsed, and occupied due to industrial and mining production and construction; The saved area of urban construction land mainly refers to the area of newly added construction land for the renovation of old cities, the area of brown land treatment, and the area of urban underground space development. In order to ensure the smooth operation of China's national economy, we use factors such as the balance of construction land and the balance of construction occupation and compensation as evaluation indicators in the evaluation of land consolidation planning benefits, and conduct strict consolidation analysis on land consolidation. And we need to give certain attention to the requirements of new rural construction. After analyzing it, we learned that the construction of new rural areas is stricter in regulating villages.

4. Conclusion

As a basic and strategic livelihood project, land consolidation has an extremely significant comprehensive effect in protecting the red line and development, implementing the two most stringent systems, promoting rural construction in socialist China and coordinating urban and rural development. The analysis and evaluation of the benefits of land consolidation planning is an extremely important issue, and it is related to the national economy and people's livelihood in China. In the process of land consolidation planning, we must make a strict analysis of land consolidation planning through scientific methods. Generally speaking, through the implementation of land consolidation planning, Yitong Manchu Autonomous County will make some progress in improving the environment, increasing the area of cultivated land and raising people's income, and will also play a certain role in reducing the area of low-and medium-yield fields and soil erosion. The implementation of land consolidation planning not only effectively safeguarded the interests of farmers, but also increased the number of basic farmlands with high and stable yield, ensured food security, guaranteed land for development, promoted economic development, and realized comprehensive economic, social and ecological benefits in the process of land consolidation implementation. As far as the current situation in China is concerned, it is very important to analyze the benefits of land consolidation planning if the land consolidation effect is to reach our ideal land utilization rate, and only in this way can we achieve sustainable development and utilization of land and achieve harmonious development with economic, social

and ecological benefits.

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