

The Dilemmas and Countermeasures of China's Agricultural Ecological Compensation Mechanism

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Although significant progress has been made in China's agricultural ecological compensation mechanism, there are still some urgent issues to be addressed compared to its crucial foundational role in rural ecological revitalization. The legal mechanism for ecological compensation in Chinese agricultural lands faces shortcomings in terms of the subjects of compensation, the objects of compensation, the modes of compensation, and the standards of compensation; similarly, the policy for ecological compensation in watersheds also faces issues such as lack of unity in the policy-making entity and instability in policy. In terms of agricultural land ecological compensation, it is necessary to expand the subjects of compensation, clarify the objects of compensation, broaden the scope of compensation, pay attention to the regulatory role of the market, and establish compensation standards that fully consider the will of different subjects and use scientific methods to balance the interests of all parties. In the area of watershed ecological compensation, on one hand, it is essential to establish a horizontal ecological protection compensation mechanism within the watershed that embodies the principles of "shared costs, shared benefits, and cooperative governance" between upstream and downstream regions. On the other hand, it is crucial to establish a diverse and complementary set of rules for watershed ecological compensation to ensure the effective operation of the watershed ecological compensation mechanism.

Keywords: the rural revitalization strategy, agricultural ecological compensation mechanism, countermeasures

Introduction

After years of exploration, China has made significant progress in the agricultural ecological compensation mechanism. However, compared to its crucial foundational role in rural ecological revitalization, the current agricultural ecological compensation mechanism still faces some urgent issues to be resolved. The 19th National Congress of the Communist Party of China officially proposed the rural revitalization strategy. The report indicates that China should establish a "market-oriented, diversified ecological compensation system", which points out the direction for the construction of China's agricultural ecological compensation mechanism.

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The Current Situation of China's Agricultural Ecological Compensation Mechanism

The current situation of China's agricultural ecological compensation mechanism is focused on the construction of agricultural land ecological compensation and watershed ecological compensation mechanisms, as agricultural land ecology and watershed ecology are vital components of agricultural ecology.

Agricultural Land Ecological Compensation Mechanism

Agricultural land is an indispensable resource for farmers' production and life. Implementing an agricultural land compensation system can effectively encourage rural residents to protect agricultural land ecology and promote green production. Article 71 of China's "Agricultural Law" stipulates compensation for the expropriation of agricultural land collectively owned by farmers.

Cropland ecological compensation mechanism. The 2016 "Opinions on Improving the Ecological Protection Compensation Mechanism" emphasized the need to refine China's cropland ecological compensation system, suggesting the establishment of a subsidy system guided by green ecology. This includes providing financial assistance to farmers implementing crop rotation and fallowing in key areas like groundwater funnel areas, heavy metal pollution areas, and areas of severe ecological degradation. Efforts should be made to expand the scale of returning farmland to forests or grasslands, specifically excluding steep slopes with a gradient over 25 degrees from basic agricultural land and including them in the reforestation and grassland restoration subsidy scope. Policies encouraging the use of organic fertilizers and low-toxicity bio-pesticides among farmers are also advocated (Lian & Huang, 2023).

Forest land ecological compensation mechanism. China's forest land ecological compensation is primarily seen in the "Forest Law", aiming to establish dynamic adjustment mechanisms for public welfare forest compensation standards and improve government-purchased services for public welfare forest management and protection. These systems have played a significant role in forest ecological protection and safeguarding the interests of forestry farmers, including supporting commercial forest redemption financially to maintain lush forests without causing economic losses to forestry farmers.

Grassland ecological compensation mechanism. Regulations on grassland ecological compensation are mainly found in the "Grassland Law", focusing on compensations for the expropriation and requisition of grasslands and subsidies for pen feeding and enclosure breeding. There's an emphasis on expanding the scope of projects for returning grazing land to grassland, gradually increasing support for the construction of artificial forage lands and livestock sheds, and implementing new grassland ecological protection subsidy and reward policies based on the development of pastoral areas and the central financial situation.

Watershed Ecological Compensation Mechanism

The "Water and Soil Conservation Law" stipulates soil and water conservation compensation for key areas like river source areas, drinking water source protection areas, and water conservation areas. The 2016 "Opinions on Improving the Ecological Protection Compensation Mechanism" highlighted the need for comprehensive ecological protection compensation across important watersheds, suggesting the increase of compensation standards and funding for soil and water conservation ecological benefits. The establishment of a horizontal ecological protection compensation mechanism, primarily based on local compensation with support from central finance, is advocated. This mechanism is a crucial part of China's horizontal ecological protection compensation,

significantly valued by local governments in recent years due to the downstream areas' urgent need for upstream water quality protection. More than 20 provinces (autonomous regions, municipalities) have successively introduced policies and measures related to horizontal compensation within provincial watersheds or across provincial boundaries (Li, 2022).

The Shortcomings of China's Agricultural Ecological Compensation Mechanism

While China has achieved significant progress in developing its agricultural ecological compensation mechanisms, there are still notable shortcomings that need to be addressed.

Shortcomings of the Agricultural Land Ecological Compensation Mechanism

The legal mechanism for agricultural land ecological compensation in China exhibits deficiencies in the subjects of compensation, the objects of compensation, the modes of compensation, and the standards of compensation.

Firstly, the subjects of agricultural land ecological compensation in China are relatively singular, with the government playing a dominant role throughout the compensation process (Kong, 2010). The government acts both as the purchaser of agricultural land ecological services and the main source of compensation funds. Although this model can utilize government administrative resources for compensation, it may lead to inefficiencies in resource allocation over the long term. Meanwhile, other societal sectors such as businesses and the public play an insufficient role in the ecological compensation process, lacking a mechanism for multi-party participation.

Secondly, the objects and scope of agricultural land ecological compensation in China are not clearly defined and are subject to limitations. Current laws and regulations broadly define the objects of compensation, such as Article 31 of the "Environmental Protection Law", which states that the subjects implementing ecological compensation should compensate individuals or units suffering from ecological environmental damage. However, there is no clear definition of who qualifies as "individuals or units suffering from ecological environmental damage", potentially leading to wasteful duplication of compensation or the omission of deserving recipients, contrary to the purpose of ecological compensation. Furthermore, the legal restrictions on the scope of compensation, such as limiting it to basic farmland protection, may prevent those who contribute to agricultural land ecology from receiving appropriate compensation, thus failing to achieve the desired incentive effect of ecological compensation.

Thirdly, the mode of agricultural land ecological compensation in China is government-led, primarily involving compensation from the central to local governments (Sun, Fu, & Chen, 2018). This government-led compensation mode is recognized both domestically and internationally, as the use of state power can facilitate better coordination of interests among all parties and provide direct ecological compensation to providers of agricultural land ecological services or contributors to agricultural land ecology. Theoretically, this model could save costs, but in practice, it may lead to irrational resource allocation and high compensation costs due to information asymmetry among stakeholders and complex compensation procedures. The main reasons include information asymmetry among interest parties, making fair and reasonable compensation difficult; complex compensation procedures increasing costs; and potential corruption issues with local governments acting as intermediaries, affecting compensation efficiency.

Fourthly, the standards for agricultural land ecological compensation in China are not sufficiently clear or scientific. For instance, Article 31 of the "Environmental Protection Law" regarding ecological compensation

does not address the issue of compensation standards. Article 31 of the “Land Management Law” merely establishes the principle of compensating for the amount of farmland occupied. Therefore, the lack of unified and scientifically based compensation standards makes fair and reasonable compensation challenging, failing to address the issues of agricultural land ecological compensation standards in China effectively.

Shortcomings of the Watershed Ecological Compensation Mechanism

China's legal provisions for watershed ecological compensation are mainly dispersed across individual laws such as the “Environmental Protection Law”, “Forest Law”, and “Water Pollution Prevention and Control Law”. In this context, watershed ecological compensation in China primarily relies on a top-down policy implementation and national fiscal transfer payments through “compensation projects” and “compensation agreements”. Under these circumstances, there are several deficiencies in the legal protection for watershed ecological compensation in China.

On one hand, the entities responsible for formulating watershed ecological compensation policies are not unified. Policies established by different regions often apply only to the ecological compensation of their local watersheds, leading to significant disparities in the sources, scopes, and methods of compensation compared to other regions. This not only neglects the integrity of watershed ecology, causing considerable differences in ecological compensation within different areas of the same river, but may also result in compensation gaps and overlaps, making it challenging to establish a unified system of rules for watershed ecological compensation. The lack of uniformity in policy-making across different regions increases the difficulty of policy coordination and affects the effectiveness of policy implementation. In fact, many places have yet to implement horizontal ecological compensation across watersheds or struggle to reach ecological compensation agreements, affecting the stability of interests and the enthusiasm of ecological protectors within watersheds (Chu, 2023).

Moreover, the non-unified policy-making body leads to uneven distribution of ecological compensation funds. Upstream areas, due to lower environmental protection costs, often receive more compensation funds. In contrast, downstream areas, as beneficiaries of the ecological environment, face relatively higher environmental protection costs but receive insufficient compensation. This may result in an imbalance in the overall protection level of the watershed environment. Additionally, the differing policy standards and requirements set by various entities increase the difficulty of monitoring and evaluating watershed ecological compensation efforts.

On the other hand, the instability of policies affects the continuous protection of watershed ecology. Many watershed ecological compensation policies are based on time-limited projects, and once these projects are completed, the compensated parties often do not receive further funds, failing to incentivize the continuous provision of ecological services. This uncertainty hampers the protection of watershed ecology and makes it difficult to establish a long-term mechanism. The lack of continuous compensation guarantees for the compensated parties can lead to dependency, and any adjustment in policies may make it challenging to continue protection efforts.

Suggestions for the Improvement of China's Agricultural Ecological Compensation Mechanism

To build a diversified agricultural ecological compensation mechanism, it is necessary to increase the intensity of green subsidies for agriculture, effectively leveraging agricultural land ecological compensation and

watershed ecological compensation to assist in achieving rural ecological revitalization. For example, subsidies for new types of fertilizers, commercial organic fertilizers, biological pesticides, and biodegradable mulch could be increased through methods such as government purchasing services and subsidies based on quantity (Zhang & Fu, 2020).

Suggestions for Improving the Agricultural Land Ecological Compensation Mechanism

The federal government of the United States plays a crucial role in the operation of the cropland compensation mechanism, with the 2014 Farm Bill budgeting approximately \$28 billion for the years 2014 to 2018. This funding is mainly used for protecting cropland resources, conservation reserves, encouraging agricultural producers to protect agricultural land ecology, etc., and this compensation budget standard will provide compensation funds for about 10 million hectares of farmland set-aside (C. Yang, J. Yang, & Peng, 2017). Only by enabling the various elements within the agricultural land ecological compensation mechanism to effectively play their roles can the enthusiasm of providers of agricultural land ecological services and the vitality of the agricultural land ecological compensation mechanism be greatly stimulated.

Drawing on the U.S. cropland compensation mechanism, improvements to China's agricultural land compensation mechanism can be made from the following aspects:

Firstly, to expand the subjects of agricultural land ecological compensation, allowing individuals and legal entities to participate. Currently, the government is the main subject of agricultural land ecological compensation in China, with a lack of participation from other societal actors like businesses and the public. Allowing individuals and businesses to participate can leverage their resource advantages to provide more support for agricultural land ecological construction, fostering a new model of multi-subject participation.

Secondly, to clarify the objects of compensation and expand the compensation scope, even allowing for the interchangeability of compensation subjects and objects under different circumstances. At present, the definition and scope of agricultural land ecological compensation objects are unclear and narrow, primarily limited to basic farmland protection. In the future, participants in agricultural land ecological construction and providers of ecological services could be explicitly included within the scope of compensation objects. This could also allow for the interchangeability of compensation subjects and objects according to different situations, for example, enabling businesses to compensate farmers directly. This approach would incentivize more entities to engage in ecological compensation, expanding the coverage of agricultural land ecological compensation.

Additionally, while maintaining a government-led compensation model, it's important to also focus on the regulatory role of the market by integrating market mechanisms, for instance, exploring the establishment of a market for agricultural land ecological products, allowing ecological products to become tradable assets, and guiding more social capital to participate in agricultural land ecological construction through the purchase of carbon emission rights and ecological products. This would utilize the market's strengths in resource allocation on the basis of ensuring government leadership, reducing government compensation costs.

Lastly, establishing compensation standards should fully consider the will of different subjects, applying scientific methods to balance the interests of all parties. For example, when setting standards for converting farmland back to forests, consider factors such as the investment costs of businesses, the livelihood needs of farmers, and other factors to formulate scientifically reasonable standards. This will ensure relatively fair

treatment for all parties in ecological compensation, thereby improving the efficiency of compensation policy implementation.

Suggestions for Improving the Watershed Ecological Compensation Mechanism

Strengthening inter-regional and upstream-downstream horizontal ecological protection compensation mechanisms, and establishing a compensation system for the prohibition of fishing in key waters of the Yangtze River basin, are important aspects of improving China's watershed ecological compensation mechanism. Enhancing the legal guarantees for watershed ecological compensation should address the lack of unity in policy-making entities and the instability of watershed ecological compensation policies.

On one hand, it should be clarified that the horizontal ecological protection compensation between upstream and downstream of a watershed is primarily organized and negotiated by municipal governments. Autonomous regions should actively seek central financial support and integrate local financial resources to guide and support the establishment of horizontal ecological protection compensation between upstream and downstream, promoting the establishment of a long-term mechanism. A mechanism for ecological protection compensation within the watershed that embodies the principles of "shared costs, shared benefits, and cooperative governance" should be established.

On the other hand, to overcome the challenges arising from the practice of watershed ecological compensation, it is essential to fully utilize legal regulations, national policies, and agreements as regulatory tools to establish a diverse and complementary system of watershed ecological compensation rules, ensuring the effective operation of the watershed ecological compensation mechanism (Wang, 2018). To address the non-sustainability caused by policy instability, mature policy contents should be promptly codified into laws and regulations, gradually forming a legalized system of interest distribution for watershed ecological compensation, to incentivize the continuous provision of watershed ecological services.

Conclusion

In the process of exploring and refining China's agricultural ecological compensation mechanism, significant progress has been achieved. However, in relation to its fundamental role in rural ecological revitalization, there are still pressing challenges that need to be addressed. The recommendations proposed in this article aim to adapt the agricultural ecological compensation mechanism better to the rural revitalization strategy. By expanding the subjects of compensation, clarifying the objects of compensation, broadening the scope of compensation, and establishing scientific compensation standards, the article seeks to optimize both land and watershed ecological compensation mechanisms. This support aims to propel the construction of an ecological civilization and high-quality development.

Looking ahead, the combined efforts of the government, market, and society, along with continuous innovation, are required to realize a market-oriented, diversified ecological compensation system. This ensures that China's agricultural ecological compensation mechanism better serves the overall strategy of rural revitalization and ecological civilization construction. Not only does this help in addressing current issues, but it also provides crucial practical guidance and theoretical support for the construction of a modernized, strong country where humans and nature live in harmony.

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