

# Exploring Issues and Strategies of Rural Land Use and Environmental Protection

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**Abstract:** Land resources play a crucial role in the overall development of society, but the irrational exploitation and use of these resources have significant adverse effects on the natural ecological environment, which is detrimental to the effective construction of a harmonious society. There is an inseparable relationship between rural land use and ecological security, and in current rural land use practices, environmental protection issues are increasingly emphasized. In some rural areas, in pursuit of short-term economic benefits, the importance of environmental protection is often overlooked, leading to excessive development and use of land resources, posing a great threat to the sustainable development of rural society. The reduction of vegetation signifies a deterioration of the ecological environment, and soil erosion leads to a decrease in land resources and a decline in land productivity, while soil degradation directly affects the growth of crops and the income of farmers. Therefore, it is essential to integrate environmental protection concepts throughout the entire process of rural land use. In the development and utilization of land resources, environmental protection requirements must be fully considered, adopting scientific and reasonable planning and measures to ensure the full utilization of land resources and achieve sustainable development of rural society.

**Keywords:** Rural Land, Use Issues, Environmental Protection.

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## 1. Introduction

In recent years, with the deepening of the strategy of ecological civilization construction, people have gained a deeper understanding of the concept of harmonious coexistence between humans and nature. This harmony is not only a beautiful vision we pursue but also the key to achieving sustainable development. In the construction of ecological civilization, the health and integrity of ecosystems are highly valued, and any actions that may cause damage to them need to be strictly monitored and avoided. The use of rural land, as an important area closely related to the ecological environment, has an impact that cannot be ignored. Land, as the cornerstone of human survival and development, with its limited and non-renewable nature, requires us to carefully consider our methods of use[1-3]. However, some rural areas currently pursue short-term economic benefits in their land use, neglecting ecological benefits and threatening the long-term development of rural society. For this reason, it is necessary to strengthen the environmental construction work of rural land use, which means developing more scientifically and reasonably planned land use, ensuring that every inch of land is used most effectively; it also means enhancing the environmental awareness of the public, making everyone aware of the importance of their actions to the ecological environment. Only when everyone actively participates in environmental protection actions can the harmonious coexistence of humans and nature truly be achieved.

## 2. The Importance of Rural Land Use and Environmental Protection

### 2.1. Promoting Rural Economic Development

Rural land use is irreplaceable in the prosperity of the rural economy. As the foundation for farmers to produce food and agricultural products, its rational use not only concerns the yield and quality of agricultural products but also directly

sources farmers' economic income. Scientific planning and management of land resources are key to improving land use efficiency. Through reasonable land layout and adjustments in planting structures, the production potential of land can be maximized, ensuring the stable supply of agricultural products, which also helps to advance the modernization of agriculture and enhance the overall competitiveness of agriculture. With technological progress, modern agricultural techniques and management methods offer more possibilities for land use. The application of precision agriculture, smart agriculture, and other new models makes the use of land resources more efficient and precise, gradually increasing the yield and quality of agricultural products and bringing more economic benefits to farmers. Since rural land use directly concerns the sustainable development of rural areas, rational use of land resources under the premise of protecting the ecological environment can help achieve a harmonious coexistence of agriculture and the ecological environment, laying a solid foundation for the long-term prosperity of rural areas[4-5].

### 2.2. Improving Land Resource Utilization Rates

In the process of rural land use, it is not enough to pursue economic benefits while neglecting the protection and restoration of the ecological environment. The importance of environmental protection must be ensured. Overdevelopment of land and misuse of fertilizers and pesticides can cause severe damage to the soil, lead to soil degradation, and pollute water sources, affecting the health and stability of the entire ecosystem. Such shortsighted behavior will ultimately backfire, affecting the quality and safety of agricultural products and even threatening our living environment. Therefore, in the process of land use, environmental protection must be prioritized to achieve sustainable land use. Based on actual development situations, a series of effective measures should be taken, such as scientifically planning land

use, arranging planting structures reasonably, reducing the use of fertilizers and pesticides, and promoting ecological agriculture. It is also necessary to strengthen the monitoring and assessment of the land's ecological environment to promptly identify and solve environmental problems. Only by protecting the ecological environment can the sustainable use of land be ensured, providing a solid foundation for the long-term development of the rural economy. Additionally, establishing a green development concept and integrating environmental protection into every aspect of land use can achieve a win-win situation for both economic and ecological benefits.

### 2.3. Ensuring National Food Security

The use of rural land and environmental protection are not only necessities for the development of rural areas themselves but also crucial safeguards for national food security and ecological safety, as illustrated in Table 1. Land, as the cornerstone of food production, plays a direct role in ensuring

the stable supply of the nation's food. Through scientific land planning and management, the continuity and stability of food production can be maintained, thus safeguarding national food security. At the same time, environmental protection is vital for maintaining the balance and stability of ecosystems. A healthy ecosystem provides a good environmental support for agricultural production, promoting the sustainable development of agriculture. Conversely, environmental pollution and ecological damage can severely affect the quality and safety of agricultural products, and even pose a threat to human survival. Therefore, the integration of rural land use and environmental protection is imperative as a crucial measure to maintain national food security and ecological safety. By strengthening land management, promoting ecological agriculture, and enhancing environmental monitoring, rational use of land resources and effective protection of the ecological environment can be achieved, providing solid security for the nation's food and ecological safety[6-7].

**Table 1.** The Importance of Rural Land Use and Environmental Protection

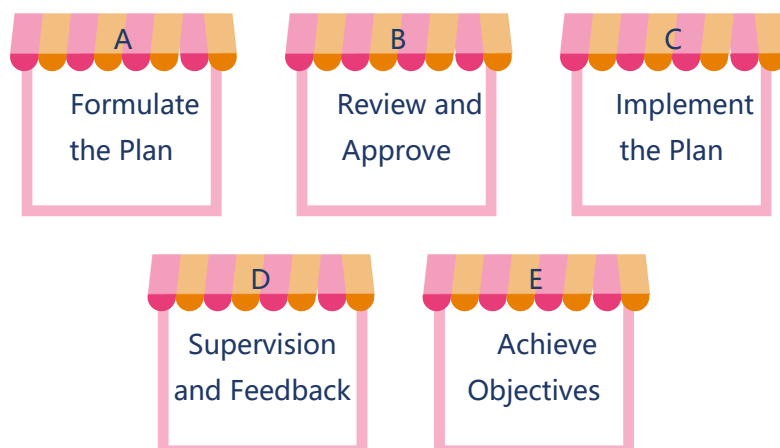
Aspects	Contribution to national food security	Contribution to national ecological security
Rural land use	Secure land supply for food production	Maintain the ecological environment required for agricultural production
	Ensuring the stability and sustainability of food production	Promoting sustainable agricultural development
	Improve the efficiency of land use and increase grain production	Protect the land ecosystem and maintain ecological balance
Environmental protection	Prevent the negative impact of environmental pollution on food production	Maintain the integrity and stability of the ecosystem
	Ensuring food quality and safety	Ensuring biodiversity and ecological services
	We will promote green agricultural development	We will guard against ecological disasters and risks

## 3. Problems in Rural Land Use and Environmental Protection

### 3.1. Outdated Land Use Planning

In some areas, there are indeed problems with irrational planning or lax enforcement in the development and use of rural land resources. These issues directly affect the effective use of land resources and can cause severe damage to the ecological environment. Some areas' planning schemes are disconnected from local realities, overly ambitious, and

impractical. Although these plans raise land use indicators, they are hard to achieve due to the lack of actual economic growth points, leading to severe wastage of valuable land resources and even triggering a series of social and economic issues. Additionally, some rural areas have vigorously developed wastelands, wetlands, and steep slopes, often leading to severe soil erosion problems. Soil erosion reduces land productivity and may cause irreversible damage to surrounding ecosystems. Such irrational land use also leads to severe degradation of environmental quality, affecting people's living environments and health.



**Figure 1.** Rural Land Planning and Utilization Process

### 3.2. Inadequate Management Mechanisms

The planning and utilization of rural land is a complex and systematic project, involving the collaboration of many departments, as shown in Figure 1. However, the coordination and joint mechanisms between departments are not perfect, which affects the effectiveness of management. Specifically, some rural areas have a tendency to expand construction land planning one-sidedly, often leading to frequent illegal land use cases[8]. To attract foreign investment, some departments adopt the "get on the train first, then buy the ticket" approach, starting projects before completing relevant procedures. Although this practice may bring economic benefits in the short term, it undoubtedly poses a significant risk to the sustainable use of land resources in the long term. Due to the lack of effective coordination mechanisms, these issues are often only addressed after they arise, making them more difficult to resolve and likely to cause a vicious cycle. On one hand, failure to promptly correct illegal land use encourages misconduct; on the other hand, the accumulation and exacerbation of problems make land management more challenging.

### 3.3. Weak Foundation for Land Ecological Construction

Currently, there are indeed deficiencies in the environmental protection management mechanisms during rural land use, due to limited resource investment, and a lack of professional organizations and personnel for environmental protection, making it difficult to carry out in-depth environmental promotion and education. This results in weak environmental awareness among villagers, who may easily engage in polluting and environmentally damaging behaviors. Although some areas have established relevant institutions and teams, the organizational capabilities of the staff are insufficient, and the effectiveness of promotional education is not ideal, directly affecting the sustainability of rural land use and hindering the development of environmental protection efforts. To improve this situation, it is necessary to increase investment in rural environmental protection, including financial, human, and material support. Simultaneously, the construction of environmental protection professional organizations and promotional teams should be strengthened to enhance their professional capabilities and organizational levels[9]. Furthermore, environmental

promotion and education should be extensively carried out, through training classes, distribution of promotional materials, etc., to raise villagers' awareness of environmental protection and participation.

## 4. Strengthening Measures for Rural Land Use and Environmental Protection

### 4.1. Scientific Planning of Land Resources

Affected by China's large population base, the problem of relative scarcity of land resources is increasingly prominent. This reality requires us to pay great attention to the protection of rural land resources, consistently integrating the concept of sustainable development. In advancing rural land use, it is necessary to pursue not only economic benefits but also to focus on the organic unity of social and ecological benefits. As rural economies rapidly develop, conflicts between people and land and environmental issues are intensifying. To alleviate this pressure, it is necessary to develop forward-looking and operable land use plans. Planning should fully consider the carrying capacity of land resources, ecological and environmental conditions, and social and economic development needs, ensuring the rational use of various types of land resources. Also, the development and utilization of land resources should be strictly controlled to avoid overdevelopment and misuse that could damage the ecological environment. When compiling land use plans, past experiences in land development should be summarized, combined with local conditions and the requirements of ecological civilization construction, to formulate specialized land use plans tailored to local characteristics. Through scientific planning and management, land use efficiency can be improved, land productivity can be enhanced, and the sustainable use of land resources can be achieved. Additionally, environmental protection efforts during rural land use should be strengthened. In the process of land development and use, environmental protection factors should be fully considered, and effective measures should be taken to prevent problems such as soil erosion and degradation of land quality. Environmental monitoring and assessment should also be strengthened to promptly detect and resolve environmental issues, ensuring the healthy, stable, and sustainable use of land resources, as depicted in Figure 2.

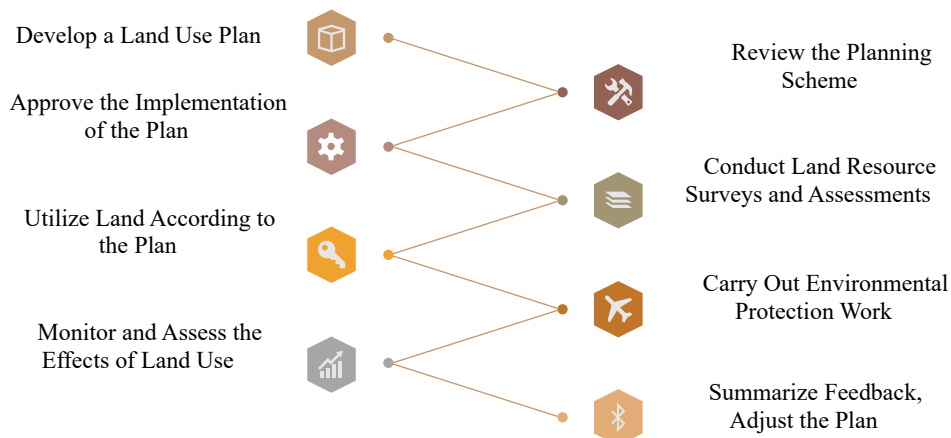


Figure 2. Entire Process of Rural Land Use and Environmental Protection

## 4.2. Strengthening Management Work Mechanisms

To enhance the efficiency of rural land use, it is essential to continually innovate work mechanisms and improve management efficiency. In the context of rapidly developing information technology, perfecting the mechanism for transferring information on rural land use is particularly important. The construction of this mechanism helps in the comprehensive collection, efficient processing, and rapid transmission of various types of information, providing robust support for the scientific development and utilization of rural land resources. To achieve this goal, it is vital to actively introduce and integrate modern technologies such as 3S. These technologies can obtain land data and diagrams accurately and comprehensively, providing rich data support. At the same time, actively build various land data analysis and information platforms. Through data integration and analysis, provide a decision-making basis for rural land use. As rural development progresses, the use of land resources will also change. For effective management of rural land, dynamic monitoring of the use of various types of land is necessary, continuously updating the data in the system to ensure a comprehensive and accurate grasp of land use at all times. Furthermore, based on system platform support, in-depth analysis of monitored data should be conducted. Through data mining and analysis, promptly identify factors in the rural land use process that may adversely affect the ecological environment. This helps to optimize the use of rural land resources in a timely manner, ensuring that while land use efficiency is enhanced, the ecological environment is effectively protected[10].

## 4.3. Consolidating the Foundation for Ecological Construction

To improve the environmental and ecological quality of

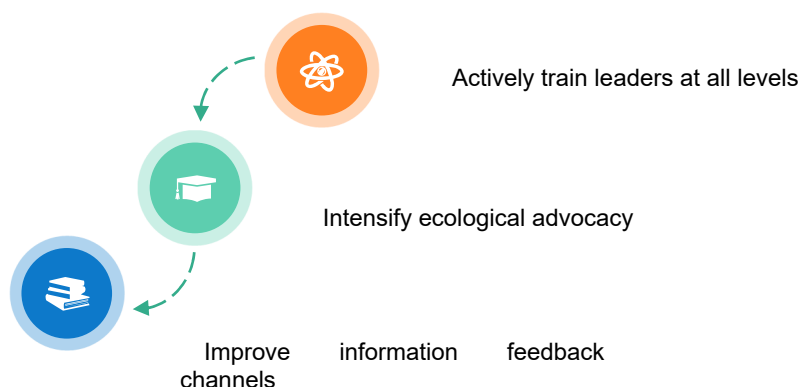


Figure 3. Measures to Consolidate the Foundation for Ecological Construction

## 5. Conclusion

In summary, while land resources are an indispensable part of the ecosystem, some areas in the development and utilization of rural land resources have not fully considered the urgent needs of environmental protection. This shortsighted behavior overlooks the sustainability of land resources and has caused irreversible damage to the land ecosystem to a large extent. Due to the lack of scientific environmental protection measures, some areas have experienced severe soil erosion, leading to a decline in soil

rural land use, it is necessary to implement ecological education and promotion activities deeply, enhancing the ecological cultural literacy of rural residents so they can fully recognize the importance of ecological environment protection and voluntarily maintain good land use behaviors, as detailed in Figure 3. First, by strengthening training on ecological civilization construction and environmental protection, their awareness of environmental protection can be enhanced. When formulating rural land use plans, leaders can actively and comprehensively consider environmental protection requirements to ensure the rationality and sustainability of the plans, thereby avoiding damage to the ecological environment. Second, by guiding the broad masses of farmers to understand the necessity of ecological environment protection, we can enable them to consciously resist poor land use behaviors that destroy the ecological environment. To achieve this goal, it is necessary to work closely with departments of education, culture, and publicity, making full use of networks, television, lectures, and other mediums to popularize ecological culture knowledge and enhance the public's sense of ecological responsibility. Third, by establishing an open public information platform, encourage rural residents to actively report adverse phenomena and behaviors discovered in daily life. Relevant departments should address these issues in a timely manner to prevent them from escalating, ensuring standardized and ecological land use. Implementing in-depth ecological promotion and education activities, improving the environmental and ecological quality of rural land use, enhancing the ecological cultural literacy of rural residents, and promoting the sustainable use of land resources and the healthy development of the ecological environment.

fertility, affecting the growth of crops, and damaging the entire ecosystem. Over time, this poor land use approach will severely restrict the sustainable development of rural society and even pose a threat to human living environments. Therefore, facing this severe situation, relevant departments and personnel must genuinely enhance their awareness of ecological and environmental protection, placing environmental protection at the forefront of land use. In practical terms, scientifically plan the use of rural land to ensure that every inch of land is used reasonably and efficiently. Also, strict control should be exercised during the

rural land use process to lay a solid foundation for the long-term development of rural society.

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