Study on Protection Ways of Biodiversity in Rural Environment Construction

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Abstract. Today the loss of diversity of biological species is a global issue, which has attracted attentions from each parts of our society. The rural environment is important habitat for biological species. With the rapid development of rural environmental construction, the land use, agricultural production, tourism development, and residential environment construction in rural have undergone great changes. And similar environmental changes pose a potential threat to the survival of the original biological species. Biodiversity is the basis for the harmonious development of mankind and nature. The rural environment construction requires the support of protection technology for biodiversity. This paper aims to realize the protection of biodiversity in rural environment construction, by analyzing and studying five ways to rationally layout rural space environment, develop biological agriculture, protect biological species habitat, establish biological parks and biological corridors, and create life-rich rural culture.

1. Introduction
Today the rural revitalization has become a major strategy in China's new era, and the transformation of regional rural biological environment construction has become a new hot topic in academic research. The protective development in rural biological environment construction has become a major topic in the academic circles currently. And I think that, before the new round development of rural construction, it is imminent to study ways to protect the diversity of rural biological environment. With the increase of economic activities of rural life and production, people continues to expand the use of natural resources, which is threatening biodiversity seriously. Biological destruction is one of the main causes of species diversity loss, so we should pay attention to the protection of biological species diversity in rural environmental construction. With the promotion of rural revitalization plan and construction, new changes have taken place in the rural environment, technical of rural agricultural production have been improved, infrastructure such as rural road has been more and more complete, and the pattern of rural space environment has been constantly updated. These changes have an important impact on the biological diversity of rural environments and worth attention and research.

President Xi Jinping said that green development is to solve the problem of harmonious coexistence between man and nature." In a certain sense, this corrects the prejudice that rural construction is rural modernization construction, and respects the modern concept of ‘respect nature and respect ecology’ and introducing the rural construction concept of ‘biodiversity’, to promote the benign development of rural biological environment construction in China. Particularly for the current overall requirements for
the implementation of the 19th National Rural Revitalization Strategy, it is of great theoretical and practical significance to avoid partial understanding of the ‘modernization’ of rural construction.

2. Concept of biodiversity
The concept of biological diversity or biodiversity does not have a clear definition. The term ‘biological diversity’ is earlier than the term ‘biodiversity’. In 1986, the American Academy of Sciences and the Smithsonian Association together held the ‘National Forum on Biological Diversity’, which presented the concept of biological diversity officially for the first time. Since then, the concept of biodiversity has been widely accepted and applied, replacing the term “biological diversity” gradually. The concept refers to a stable biological complex composed of a variety of living organisms in a certain range. Of which, natural species diversity is the key to biological environment diversity. Ecosystem diversity refers to the diversity of habitats, biomes and biological processes within the biosphere. It not only reflects the complex relationship between species and the biological environment, but also reflects the richness of biological resources.

3. The urgency of rural biodiversity protection

3.1. Current status of rural biodiversity
The excessive utilization of rural natural resources has resulted that the global biological environment quality appear to be drastically bad. Under the condition of deterioration of natural environment, some natural species will be eliminated by special competition, resulting that the total number of biological species will decrease slowly. Trend of loss of global species: 5%-20% species of animals and plants will be endangered in the future, 60,000 species likely to become extinct in the next 20 years. The degree of loss of natural species in China is also very serious, and the prospect of rural biological environment is not optimistic. More and more experimental results show that the loss of biodiversity has been quite serious, which is obvious from the genetic level to the ecosystem level, and biodiversity has affected health of human and the health of the planet. Developing relevant research on the theory of rural biological environment is in line with the general requirements of ‘biological livability’ proposed by General Secretary Xi Jinping. The 19th National Congress of the Communist Party of China proposed a rural revitalization strategic plan, guided by urban and rural overall planning, systematically studying the innovative theory of biological diversity protection adapted to the comprehensive construction of rural biological environment in China, has become a top priority. Therefore, in the “improvement of China's urban and rural planning and rural construction system”, the practice demonstration and theoretical innovation of rural biological diversity environment construction is indispensable.

3.2. Problems that rural biodiversity protection face
Rapid urbanization and rural construction are two major symbols of land reuse in rural social development, which changes the original land face and has a greater impact on the biological environment. The impact of urbanization on biodiversity has detailed research, while the study, about that rural construction affects the diversity of the biological environment, is relatively lack. The value, distribution pattern and protection measures of biological diversity in cities have been discussed in detail. However, the relationship between rural construction development and biological diversity still lacks research, and the research on the path of biological diversity protection measures in rural construction is still weak. The report of the 19th National Congress of the Communist Party of China regards “consisting on the harmonious coexistence of man and nature” as one of the basic strategies for persisting and developing socialism with Chinese characteristics in the new era. Man and nature are communities of life. Mankind must respect nature and protect nature, not attempt to destroy nature and conquer nature. Human disrespect for nature is a disrespect for human beings. Human harm to nature will eventually hurt human beings.
4. Influence of rural environmental construction on biodiversity

4.1. Control degree of rural environment biodiversity

The development of rural areas in China highly depends on the natural biological environment. Under the background of rapid urbanization, the rural biodiversity environment is gradually suffering, and biological sustainable development faces serious threats. It is urgent to solve the biological environment problems through biodiversity restoration. To achieve coordinated development of socio-economic-environmental. Considering the particularity of the rural biodiversity system, when the biological restoration of rural environment construction is carried out, the urban biological restoration method cannot be copied, but based on its current characteristics, the principle of “four combinations” should be grasped—the combination of goal orientation and problem orientation, the combination of macro-control and micro-guidement, the combination of the overall system and local focus, the combination of local nature and scientific restoration, developing the construction of rural biological diversity environment from multiple scales. Details as follows:

1. On the macro scale, optimize the biodiversity safety pattern, improve the stability of the biodiversity system, and lay the foundation for rural biological restoration and development;
2. On the middle scale, delineate the biological function zoning, clarify the classification and guiding strategies, and improve the pertinence of rural biodiversity;
3. On the micro scale, sort out the various village areas involved in the biodiversity elements that need to be repaired, formulate specific measures and strategies, and improve the accuracy of rural biological restoration.

The rural biological environment is a type with specific aesthetic form and natural landscape. It is a representative of the settlement form from scattered farmhouses to representative towns providing production and living services. It includes natural rural scenery, composite mosaic formed by different land units, and rural regionalism and landscape environment types.

4.2. Main factors influencing biodiversity of rural environments

4.2.1. Changes in rural land use patterns. The village is the main habitat of biological species. The current land use pattern has changed, the intensity of use has increased, and the traditional rural environment has undergone major changes, which has a direct negative impact on rural biodiversity. There are increasing indications that changes in the traditional natural environment and the loss of rich species habitats have led to a downward trend in biodiversity. The increase of land use intensity leads to the decrease of semi-natural and natural areas, which reduces the species of vascular plants such as vascular plants and mosses. As a result, the richness of many natural biological species declines, and the overall natural biological diversity shows a significant decline.

4.2.2. Unbalanced development of rural planting industry. Rural agricultural production is the main source of human food, and it has a wide distribution area, so it has a wide range of influence on rural natural biodiversity. In modern agricultural production, Crops are dominant and other species are removed, which destroying the original natural biosystem, resulting in natural habitats reducing and overall biodiversity reducing. In terms of biological diversity, vascular plants are common in agricultural activities, and high-intensity agricultural production reduces or even eliminates rare vascular plants. Agricultural production activities destroy the habitats of the species, and the diversity of habitats provides habitats for the species. The heterogeneous landscape environment reflects the diversity of habitats. With the development of modern agricultural production, the heterogeneous landscape environment is reducing. More homogenous landscapes, in terms of landscape homogenization, mean that open habitats (crops, grasslands, shrubs, wetlands, etc.) are reduced.

4.2.3. Great changes in rural living conditions. Native species require native habitats, and native habitats fall below the critical point due to increased housing density. The appearance of human and
human pets will drive away, harm and even kill wild animals, thus affecting the diversity of biological species. The development of rural residential areas has a greater impact on nature reserves and wild species than the development of urban fringe areas. Low-density housing conditions can often be used to protect biological resources. With the coverage of the urbanized landscape environment, the density of urban and rural housing increases, the number of species of animals and plant communities decreases, the number of birds continues to decrease during the development of urban areas, and the diversity of butterflies decreases with the degree of development. The development of colony areas will lead to more artificial building facilities, generate more small plaques, hinder animal migration, and become smaller and isolated. In the perspective of new urban-rural relations, rural construction planning co-ordinates rural space, resources, facilities, features and characteristics, and pays attention to changes in rural biological basic conditions from the macro and micro levels, providing a platform with multiscale for the practice of rural biological diversity protection.

4.2.4. Extension of rural artificial ecology. Rural forest woodlands and wetlands are rich in species and are habitats for most biological species. Woodland and wetland are relatively intact natural landscapes in the countryside. They have high species distribution on the edge. The construction of rural landscape environment will lead to the destruction of forest and wetland structures, which have a negative impact on the habitat of fauna habitat environment. Woodland and wetland are a kind of near-nature environment. In the construction of rural landscape environment, the disturbance of human factors will be increased, and the habitat of biological species will be destroyed, which will cause potential threats to many organisms. There is a lack of integration and integration between rural forest land and wetland biological elements. The mountain forest, water system and wetland are relatively isolated from human activity space, and there is no stable biological network system. The overall biological service function is not high, and the biological background value is difficult to manifest. In addition, due to large-scale agricultural production and other economic activities, most of the native natural environment in rural areas has been replaced by artificial ecosystems, mountain vegetation degradation, excessive mineral exploitation, river channel pollution, agricultural non-point source pollution, and deterioration of human settlements. There are endless problems, and biodiversity protection and natural restoration cannot be delayed.

5. Protection of biodiversity in rural environment construction

5.1. Influence of changes of changes in rural environmental structure on biodiversity. Changes in the environmental landscape of rural landscapes affect the distribution of biological species. Rural plaque affects the migration and excretion of specific species, which in turn affects the abundance of the species in plaque. If the introduction of species into rural landscape patches is single, it will result in a decline in biodiversity. Changes in plaque shape affect the exchange of matter and energy between plaques, and species survival is affected. The corridor connects the plaques and is the channel for species, nutrition and energy exchange between the plaques. The small animals use the corridor habitat to spread. The destruction and change of the original corridor will weaken or lose its function, and the fragmentation of the landscape will be aggravated, resulting in further deterioration of the habitat, which is not conducive to the protection of native species and has a greater negative impact on biodiversity. The fragmentation of the landscape environment will lead to a reduction in the population area, resulting in an increase in unsuitable habitats, impeding the flow of genes and the spread of populations, changing the structural relationship of ecosystems, leading to degradation of ecosystem functions and disappearance of types. The unreasonable biological spatial layout of the matrix, the design and arrangement of modern techniques such as forest land, green belt, water system and wetland are not conducive to the realization of biodiversity protection.
5.2. Biodiversity protection measures in rural environments

5.2.1. Layout rural environment rationally. The construction of rural environment should reflect the rural visual aesthetic and biological environment aesthetics. The rural areas have regional characteristics. The rural landscape environment construction should combine the existing natural resources construction and reflect the regional characteristics, including the biodiversity and the natural components in the biological process. The landscape environment construction and the protection biological objects are divided into different protection areas, divide area, and design different functional areas. The landscape environment stability approach is adopted, design matrix design, use the green corridor, to protect the large local plaques, and construct the natural primitive biological landscape structure, so that the rural landscape environment has biological functions. The local characteristics are not only the main components of the rural landscape environment, but also the basic environment for the survival of native species. Starting from the visual aesthetic value and the biological structure function, the rural characteristics of the country are designed to be natural and beautiful. For the introduction of green patches and new changes in land use, it is necessary to integrate the local characteristics into a part of the rural biological structure and build a stable biological function can provide measures for the protection of biological diversity.

5.2.2. Construct biological agriculture landscape environment. Traditional agricultural production activities are the embodiment of the relationship between villages and nature. Agricultural production is a fixed process of human disturbance. The long-term evolution of creature adapts to this disturbances and can coexist for a long time. The construction of rural landscape environment has undoubtedly broken this traditional process, and the modernization of agricultural production methods has also destroyed the relationship between long-term stable production activities and living things. By changing the multi-functional use of agricultural landscapes, establishing traditional agricultural ornamental gardens, implementing eco-tourism, and realizing the compensation of economic value, thus preserving the residual traditional agricultural landscape and protecting the long-term living environment of the organism. The adoption of biological production methods is an essential biological protection route for modern rural agriculture. Biological agriculture provides more habitats for organisms in terms of its structure, composition and quality, and increases the richness and diversity of biome. It is necessary not only to protect the agricultural landscape in production, but also to protect the wilderness areas and provide diverse habitats for living things.

5.2.3. Strengthen the protection of rural habitats. The countryside is a complex ecosystem that includes diverse habitats. Farmland ridge, woodland margins, old courtyards, river channel, ponds, and ancient trees are all different habitats that provide suitable habitats for different organisms. The edge of farmland forest land is a refuge for small animals in the production season and harvest season, and also a source of plant diffusion. Rivers and ponds are the main wetland environment in the countryside, an important habitat for fish and amphibians, and the main breeding ground for frogs, pelicans and fish. Animals can survive through old courtyards and survive in old courtyards, and modern hard buildings and pavements do not. Ancient trees can be used as habitats for birds and squirrels and through corridors in residential areas. They also reflect the diversity of rural culture. The village temples are usually set up under old trees. Appropriate habitats are prerequisites for living organisms. Protecting diverse habitats in rural areas is a necessary measure to protect living things.

5.2.4. Establish biological Parks and biological Corridors. The construction of rural environment should be a biological landscape construction. Follow the biological principle to establish a multi-level and multi-structured bio-community green space system to form an overall rural-wide biological park to achieve long-term coexistence of biodiversity. In the construction of rural landscape environment, protect the well-preserved natural patches, improve the deteriorated residual plaques, integrate the introduced plaques, and construct landscape plaques with biological structure functions. A green
biological corridor network is constructed between the plaques, and green corridors such as rural roads and rivers are constructed to improve the rational layout of the biological corridors and provide biological pathways for biological migration. The corridor network connects each plaque, and the range of biological activities is widened, and the space for survival becomes larger. Moderately constructing a rural biological park, creating a complete biological structure, enabling it to carry out various biological processes and exerting biological benefits is the ultimate goal of achieving biological diversity protection in rural landscape environment construction.

5.2.5. *Create a vibrant and rich rural culture.* The diversity of rural culture is a component of biological diversity, which enhances the awareness of biodiversity in rural residents' lives, enhances people's understanding of the importance of ecology, and is conducive to deeper protection. Cultural landscape is also an indispensable part of rural environment construction. Rural culture is a local regional characteristic culture. The cultural content includes local customs, traditional habits, natural environment and various primitive ecology. The regional natural ecology itself also reflects the characteristics of the local culture of the country. Protecting the biological diversity in rural areas does not separate the biological protection from the rural cultural environment, but allows the biological culture to fully integrate into the rural environment and achieve harmony with the habitat.

6. Research Prospect

Biodiversity is an important part of the rural landscape environment, so that its protection should be incorporated into the concrete measures for rural environmental construction. Strengthening realization is the premise of taking protective measures. It is necessary to study the biodiversity resources in specific rural, and analyze the extent of threats to biological resources in rural environmental construction, and provide a basis for the application of specific protection measures. At the same time, the corresponding protection measures should achieve in the specific process of rural environment construction, and have focus according to the regionalism of rural environment construction. In rural construction, the rural landscape environment pattern and natural environment appear new changes. The protection measures of biodiversity have been developed with these changes, so that they can be applied in combination with specific situations and play their protective functions.

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