

Study on the Ecological Planting Mode of Beach Land in Shaanxi Section of Hanjiang River Basin

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Abstract

In view of the technical difficulties encountered in the construction and development of the agricultural industry chain in the Shaanxi section of the Hanjiang River Basin, such as the problems of crop planting and ecological industry chain construction, the typical research area of the Shaanxi section of the Hanjiang River Basin-Hanzhong City was investigated. By exploring the ecological planting mode of the flood land in the Hanjiang River Basin, the ecological planting mode of the flood land was optimized in order to provide reference for the development of the agricultural planting industry chain of the land consolidation project.

Keywords

Hanjiang River Basin; Beach Land; Eco-planting Model.

1. Introduction

Affected by natural factors and human intervention, the regional differences of beaches in China are significant. Most of the northwest regions are inland rivers, mainly seasonal rivers. The plant growth in the upstream beaches is generally poor, the plant coverage is low, and the soil erosion is serious. Therefore, the sediment content in the river is high, and the soil and water can not be conserved. The precipitation is concentrated in summer and the amount of water is large, which is easy to cause large-scale surface runoff. In some terrains of the northwest region, there is strong water erosion, which leads to soil erosion in the region. Locally screened by local villagers or spontaneously developed and planted short-term crops, the utilization rate is low, the biological species gradually disappear, and the environmental problems are increasing. At the same time, when the wind is large, the loose material on the surface is taken away, and the soil in the lower layer of the surface is exposed, and the soil permeability is weaker, which creates conditions for water erosion. This bad circulation system accelerates the process of beach soil desertification. The northern foot of the Qinling Mountains and southern Shaanxi have sufficient light conditions, abundant precipitation, shallow groundwater burial, and environmental conditions for the development of ecologically high-value farmland. However, the local beach land is mainly composed of gravel and gravel. The surface is exposed to coarse gravel, lack of soil resources, and has been in a barren state for a long time.

Therefore, it is urgent to carry out land development and land consolidation based on ecological security technology under the premise of adhering to scientific argumentation, following the principle of adapting to local conditions, classifying and rationally developing, and combining utilization with remediation and protection, so as to improve the utilization efficiency and production capacity of land resources, and prevent and control soil erosion and soil erosion in

beach land. It is of great significance to ensure the coordinated development of ecology, economy and society in the region.

2. The Present Situation of Agricultural Ecological Planting Pattern in Hanjiang River Basin

The planting industry accounts for a large proportion of the total agricultural output value in Hanzhong City ; the grain yield increased steadily, and the grain quality increased steadily. Vegetables and fruits have a good momentum of development ; the layout of the industrial structure is characterized, and the region has now formed a pattern of Chenggu citrus, Xixiang cherry, Liuba shiitake mushroom, black fungus, Lueyang eucommia and other local specialty industries with regional characteristics. The ecological agriculture planting mode has formed the plastic greenhouse ecological agriculture mode, the three-dimensional planting ecological agriculture mode and the five-industry simultaneous ecological agriculture mode. However, at present, there are still large fluctuations in the price of agricultural materials and weak market regulation in agricultural planting. The input and output of employees is disproportionate ; the blindness of sowing crops is large, and the content of agricultural science and technology is not high ; the scale of modern agriculture is small and the driving force is not strong ; the industrial chain is not perfect, the degree of organization is low.

3. Agricultural Planting Mode under Natural Conditions of Beach Land

In the face of the continuous reduction of cultivated land area, the lack of cultivated land reserve resources, and the intensification of the contradiction between people and land, along with the rapid implementation of urbanization and industrialization, in order to ensure food security and rural revitalization, the comprehensive development and utilization of beach land has become the main source of new land for agriculture and animal husbandry. The floodplain has been affected by flood alluvial for many years. The soil layer is deep, the soil is generally fertile, the light, heat, water resources are rich, and the climate is suitable. It has great potential in the development of large agriculture and modern agriculture. It is especially suitable for the growth of crops. It is suitable for planting winter wheat, green corn, rice and other seasonally harvested crops. It is not suitable for planting trees and fruits, otherwise it will affect flood discharge. The beach also plays an extremely important role in the river landscape. For example, it can be used as a place for people to get close to nature and leisure in the dry season with low water level, and it is an area for people to watch, relax and entertain in the surrounding areas. When the water level is high in flood season and flood season, it is used as a natural ' sponge ' for storage and flood control. In some places at home and abroad, some beaches are also planted with crops in a large area, which not only promotes the development of local agriculture and forestry industry and local economy, but also further develops the beach resources. The Xiayukou beach of the Hanjiang River is from near to far from the river bank, and the terrain elevation is from low to high. The flooding time of the beach gradually becomes shorter, the frequency gradually decreases, and the ventilation conditions gradually increase. The soil gradually transits from the reducing environment to the redox and then to the reducing environment. During the dry season, the groundwater level decreased, and the input of organic matter such as litter and root system increased. The thicker the litter, the stronger the soil 's water and fertilizer retention capacity, the more conducive to the accumulation of organic matter and the growth of crops. The main planting optimization models are the paddy field compound planting and breeding model, the water ecological agriculture model and the hilly mountain grass fruit fungus biogas model.

4. Discussion on the Integration of Land Remediation and Beach Agricultural Planting Industry Chain

4.1. Cracking the Problem of Cultivated Land Fragmentation

The cultivated land in the study area is relatively fine. Through the ' farmers concentrated living, farmland centralized merger, agricultural centralized management ', the scattered and fragmented fields can be merged into standard fields, and the permanent basic farmland can be connected into one piece. At the same time, the irrigation and drainage facilities, road systems, and agricultural ancillary facilities in the region are also constructed according to modern agricultural standards, laying the foundation for agricultural modernization and large-scale operation, and creating conditions for agricultural production. Through the comprehensive improvement of land and the overall planning of the project area, the efficiency of agricultural production is improved and the intensity is reduced, and the attraction of agricultural management is obviously enhanced. High-standard farmland projects are operated by agricultural enterprises and large growers through land transfer.

4.2. Activate the Vitality of Regional Development

Different from the traditional land remediation projects focusing on the primary industry of agriculture, land remediation projects can refer to the road of agricultural development in international metropolises such as Berlin and Tokyo, and put forward the " two links and three " of agriculture, that is, agriculture and agricultural product processing, agricultural product storage and sales, and agricultural tourism. At the same time, the ecological, technical and cultural factors are integrated into the renovation plan, the urban demand and rural development are effectively integrated, and the new business forms such as sightseeing, leisure and experience agriculture are driven by the characteristic brand agriculture, which injects new impetus into the rural economy and activates the development vitality of regional agriculture.

4.3. Ecological Demonstration Leads the New Industry of Urban Agriculture

In the process of comprehensive land remediation, we should pay attention to the application of ecological technology. By retaining the trees behind the house, dredging the water system, creating the art of paddy fields, and establishing the ecological circular agriculture model of ' pig-marsh-crop ', we will create and enhance the sustainable development of the ecosystem, preserve and continue the traditional rural characteristic cultural features, and play a continuous demonstration and leading role in the construction of beautiful villages and harvest good social repercussions.

4.4. Characteristic Landscapes Allow Citizens to Retain Nostalgia

How to make ecological land remediation become the norm of beautiful rural construction, how to scientifically and reasonably evaluate the natural ecological value, style characteristics and rural culture of suburban areas, how to consider the simulation of natural river ecosystem in design, and how to protect farmland ecosystem. Guided by ecological land remediation, with the goal of cultivated land protection and high-standard farmland construction, we will focus on building a green, healthy and sustainable suburban ecosystem with outstanding global urban characteristics, so that the beautiful countryside mark will become a cultural business card connecting tradition and future. At the same time, on the basis of protecting farmland, relying on modern information technology, we will gradually explore more possibilities for Internet agriculture.

5. Conclusion and Suggestion

Hanzhong City is a typical research area in the Shaanxi section of the Hanjiang River Basin. According to different divisions, the main planting optimization models can be divided into three types: one is the paddy field composite breeding model, in which fish and some aquatic microorganisms are stocked in the paddy field. Various organisms in the paddy field jump into each other and promote each other, forming a benign ecosystem. The second is the water ecological agriculture model, which can be divided into various economic circles according to the contour difference simulation design of topography. The third is the model of grass-fruit-fungus biogas in hilly and mountainous areas. With soil and water conservation as the core, a sustainable restoration and management model such as forest-fruit-grass-herd-fungus biogas is established.

On the premise of adhering to scientific argumentation, we should follow the principle of adapting measures to local conditions, classifying and rationally developing, combining utilization with remediation and protection, and carrying out land development and land consolidation based on ecological security technology, so as to improve the utilization efficiency and production capacity of land resources, and prevent and control soil erosion and soil erosion in beach land. The first is to solve the problem of fragmentation of cultivated land. After 'farmers live together, farmland is centralized and merged, and agriculture is centralized,' the scattered and fragmented fields can be merged into standard fields, and the permanent basic farmland can be connected into one. The second is to activate the vitality of regional development, put forward agriculture 'one after another', and connect agriculture with agricultural product processing, agricultural product storage and sales, and agricultural tourism. At the same time, the ecological, technical and cultural factors are integrated into the renovation plan, the urban demand and rural development are effectively integrated, and the new business forms such as sightseeing, leisure and experience agriculture are driven by the characteristic brand agriculture, which injects new impetus into the rural economy and activates the development vitality of regional agriculture. The third is to lead the new format of urban agriculture through ecological demonstration. In the process of comprehensive land remediation, we should attach importance to the application of ecological technology. By retaining the trees behind the house, dredging the water system, creating the art of paddy fields, and establishing the 'pig-marsh-crop' ecological cycle agriculture model, we will create and enhance the sustainable development of the ecosystem, and preserve and continue the traditional rural cultural features. The fourth is to create a characteristic landscape so that citizens can retain their homesickness, abandon the rapid renovation mode of traditional large-scale demolition and construction, and comprehensively inventory and sort out the agricultural production resources including traditional agricultural cultural facilities and modern agricultural production facilities in the project area, as well as the cultural landscape resources such as characteristic rural homesteads, unique small trees and unique places. By retaining and repairing buildings or appliances with agricultural and regional characteristics, the restoration restores the natural background and cultural texture in the project area.

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