

Shaanxi Weihe Tableland Area of Weeds Land Development and Reclamation Made Cultivated Land Potential Research

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Abstract: With urban expansion, construction land increase and the implementation of the national policy of dynamic balance, shaanxi weihe tableland area of weeds to becomes the important of land development, supplement cultivated land resources, for how to complex terrain, and shortage of water resources unused developed into available arable land is facing a huge difficulties and challenges. This study tableland area of weihe river under different spatial geographic landform of weeds to unused (grassland) as the research object, research on the soil ecological function and development of weeds to Ken made cultivated land potential research. Crack problem of dynamic balance and cultivated land system innovation factors of supply and security, make tableland area of weihe river for large-scale development and utilization of land, for preparation of villages and towns national spatial planning, global land comprehensive improvement project to provide technical data to support the design and implementation, etc.

Keywords: Overall land consolidation, Wasteland, Potential of cultivated land, Reclamation of cultivated land.

1. Introduction

Comprehensive land consolidation is an important means to carry out the idea of ecological civilization construction and implement the strategy of rural revitalization. It is also a platform for the Ministry of Natural Resources to carry out the responsibilities of unified land space use control, ecological protection and restoration, and implement land space planning. To carry out comprehensive land consolidation is not only an inevitable requirement for land consolidation put forward by the new development concept, but also a fundamental trend of land consolidation in the new era [1-3]. In December 2019, the Ministry of Natural Resources issued the Notice of the Ministry of Natural Resources on Carrying out the Pilot Work of Comprehensive Land Consolidation (Natural Resources Development [2019] No. 194), which defined the objectives and tasks of the pilot work of comprehensive land consolidation. On the premise of scientific and rational planning, with towns and townships as the basic units of implementation (the improvement areas may be all or part of the villages), we will comprehensively promote the consolidation of agricultural land, consolidation of construction land, and protection and restoration of the rural ecology, optimize the spatial patterns of production, living and ecological life, promote the protection of cultivated land and the intensive and economical use of land, improve the living environment in rural areas, and promote the comprehensive revitalization of rural areas.

2. Study Area

Shaanxi tableland area of weihe river is located in the southern hilly gully region of shaanxi, north of the guanzhong plain, the guanzhong basin is the transition zone of northern

shaanxi loess plateau, the territory with beam loess ground is given priority to, gully aspect, landform is complex, uneven precipitation in time and space, frequent droughts. Affected by the topography and water resources, the natural conditions and agricultural infrastructure in this region are relatively weak, the land utilization rate is low, and the production potential has not been effectively exploited. As a result, there are many overgrown grasses, mainly compositae, gramineae, sedge, rose and leguminous plants [4]. But because the region has good light conditions, loess soil, good water keep moisture performance is good, has formed the basis of high yield and soil conditions, therefore tableland area of weihe river other grass of major reserve cultivated land resources in the region. According to the national second land investigation and preliminary statistics, weinan, baoji, xianyang, tongchuan city protect the other grass unused land reserve resources, a total of about 680000 mu. With urban expansion, construction land increase and the implementation of the national policy of dynamic balance, the lack of reserve for unused resources in shaanxi, tableland area of weihe river of weeds to become land development, farmland, important resources and support the economic development of shaanxi province on maintaining regional ecological balance and promote the coordinated development of population and land of dual task. It is a huge problem and challenge to develop the unused land into arable land which has complicated terrain and scarce water resources. The technical model of land consolidation is to achieve the economic, social and ecological objectives of land consolidation [5-6]. In addition, it is also extremely important to estimate the potential of unused land development and reclamation.

3. Potential Factors of Cultivated Land Reclamation

The potential of unused land development and reclamation mainly includes unused vegetation factors, soil structure, soil nutrients and soil organic carbon (SOC) index [7]. Soil organic carbon is an important indicator to measure ecosystem stability, soil health and fertility, and its content, composition, structure and stability directly drive the succession direction of ecosystem [8]. The total amount and distribution of SOC are affected by land use, precipitation, temperature, geology, vegetation type, soil depth, etc. [9-10]. However, due to its slow change, It shows a certain lag, and it is difficult to observe the small changes in a short time. Therefore, the active organic carbon in soil, which is fast moving, has poor stability, is easy to oxidize and mineralize, has high activity to plants and soil microorganisms, and can reflect soil management measures and small changes caused by environment before the change of soil total carbon, is selected as the index to evaluate soil quality and management measures [11]. Soil carbon pool management index (CMI) is a sensitive index for monitoring SOC changes, which can reflect the changes in the amount of active organic carbon, and thus more comprehensively and dynamically reflect the influence of external factors on SOC [12]. The physical and chemical properties of soil change with the change of vegetation composition, and the soil organic carbon pool will also change under different landforms and landforms.

4. Potential Content of Cultivated Land Reclamation

The research content of ecological function of soil and potential of arable land exploitation and reclamation of wasteland includes four aspects. First, the characteristics of vegetation water conservation in wasteland under the whole land consolidation. The present stock of vegetation litter, decomposition intensity of vegetation litter and maximum water holding capacity were measured by combining field investigation and indoor detection, so as to explore the characteristics of vegetation water conservation in wasteland. Second, the evolution characteristics of soil quality in grassland under the overall land consolidation. Determination of soil moisture, bulk density, porosity, mechanical composition, aggregate; The contents of total nitrogen, total phosphorus, total potassium and organic matter in soil were investigated to explore the change characteristics of soil structure and soil nutrients in different Spaces of wasteland. Third, the change characteristics of soil organic carbon pool in grassland under the overall land consolidation. The contents of soil organic carbon, easily oxidized organic carbon, water-soluble organic carbon, and biomass organic carbon in the bare land were measured, and the carbon pool management index was calculated to explore the variation characteristics of soil carbon pool in the barren grassland under different vegetation types. Fourth, the potential evaluation of the development and reclamation of wasteland under the whole land consolidation. Based on the perspective of soil and vegetation, the potential of arable land reclamation under the whole land consolidation was taken as the target layer, vegetation factors, soil physical and chemical factors and soil organic carbon factors were taken as the criterion layer, and specific indicators in the study were selected as the index layer to construct its evaluation index system. The

entropy weight method was used to obtain the comprehensive evaluation results, grasp the status quo of soil quality and the potential of arable land reclamation, and provide technical data support for the preparation of township territorial spatial planning, the design and implementation of comprehensive land consolidation projects and other work.

5. Summary

At present, reserve land resource has been exhausted, which seriously restricts the development of social economy and threatens the national food security. It is an urgent problem to seek for new cultivated land reserve resources in land development and utilization. Global land management as the guiding ideology, based on the analyses of shaanxi weihe tableland area of weeds to Ken made cultivated land potential development potential and content, to increase the cultivated land area of the province, to protect the red line of 1.8 billion mu of arable land to lay a theoretical basis.

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