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基于生态安全的黄河三角洲未利用地开垦潜力评价

Evaluation on reclamation potential of unused land of the Yellow river delta based on ecological security

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英文关键词: [land use](#) [global information systems](#) [ecology](#) [economics](#) [unused land](#) [suitability assessment](#) [suitable for cultivation](#) [Dongying city](#)

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中文摘要:

未利用地的开垦是土地开发人们关注的重要议题,其中评价指标体系的构建是重要的研究方向。该文深入分析影响研究区土地开发利用的各种因素,从生态安全性、自然适宜性、经济可行性3个方面构建未利用地宜耕性评价指标体系。以土地利用空间数据库为基础,利用GIS空间分析功能对各评价要素空间图层进行叠加和统计分析,研究未利用地不同条件下适宜性开发的面积和空间分布格局。研究表明,东营市未利用地总规模为27.14万hm²,考虑生态因素后,可开垦的未利用地面积为7.72万hm²,所占比例为28.44%。从自然适宜性评价来看,可开垦利用的未利用地略有减少,面积为7.49万hm²。考虑经济因素之后,可开发利用的未利用地为3.67万hm²,所占比例为13.72%。研究结论,生态因素和经济因素是制约东营市未利用地开垦的主要因素,可开发利用的未利用地为3.67万hm²。该研究结果可为东营市未利用地开发整理规划提供参考。

英文摘要:

Abstract: In China, to achieve the goal of "dynamic balance of total cultivated land", it is important to develop and utilize the unused land resource to make up the loss of cultivated land. Before the development of unused land, we should first conduct the suitability evaluation for unused land. However, many attentions have been called on the natural suitability evaluation, while few attentions have been paid on ecological factors and economic factors for a long time. This paper made in-depth analysis of various factors affecting the development and utilization of unused land in the study area, and established a land suitability evaluation index system, which includes 19 indices selected from natural suitability, ecological safety, and economic feasibility. Based on the spatial database of land use, spatial analysis methods in Geographic Information Systems (GIS) are used to evaluate and statistically analyze each spatial layer and to explore the spatial pattern of the unused land development under different conditions. This study found: The total unused land in Dongying city covers an area of 271,400 ha, according to the statistics provided by land use updated survey in 2010. Due to constrained by ecological factors, the area which can be developed and utilized is 77,200 ha, accounting for 28.44% of the total unused land. Considering economic feasibility, the developable area reduces to 36,700 ha, accounting for 13.72% of the unused land. It can be seen that the developable land decreases sharply when ecological and economic factors are considered, only accounting for over 13% of the total unused land. Especially, ecological factors may play a major role in restricting the development of unused land. The unused land can be developed for many purposes of use, especially for ecological use. The ecological value of developing unused land includes maintaining biological diversity and regional ecological balance. The proposed index system in the paper has incorporated the factors from natural suitability, ecology and economics, which is advantageous over traditional appraisal method. The new method improves the suitability evaluation of unused land. Our evaluation results in Dongying are suitable with the status of land use and are meaningful for unused land development and consolidation planning.

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