云南山区宜耕未利用地开发适宜性评价与潜力分区

Exploitation suitability evaluation and potential area zoning for arable unused land in mountainous areas of Yunnan province

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中文摘要：

为更好地引导云南山区宜耕未利用地的开发，该文以云南省典型的山区县—弥渡县为例，将GIS（geographical information system，GIS）空间分析技术、层次分析法（analytical hierarchy process，AHP）及特尔菲法（Delphi）相结合，分别构建宜耕未利用地开发适宜性评价模型、新增耕地指数及补充耕地潜力模型、宜耕未利用地开发潜力分区评价模型，对云南山区宜耕未利用地开发适宜性与潜力分区进行了分析。结果表明，研究区宜耕未利用地开发适宜性分为4个等级：最适宜、中等适宜、勉强适宜、不适宜，面积分别为71.21、1177.39、1681.00和62.00 hm2，分别占研究区总面积的2.38%、39.36%、56.19%、2.07%。研究区宜耕未利用地实际开发潜力为1248.60 hm2，预计新增耕地面积977.45 hm2。潜力分区结果表明，研究区可划分为5个潜力区和1个非潜力区。其中，Ⅰ级潜力区实际开发潜力164.97 hm2，可新增耕地144.21 hm2；Ⅱ级潜力区实际开发潜力53.38 hm2，可新增耕地46.66 hm2；Ⅲ级潜力区实际开发潜力210.64 hm2，可新增耕地164.01 hm2；Ⅳ级潜力区实际开发潜力773.93 hm2，可新增耕地590.11 hm2；Ⅴ级潜力区实际开发潜力45.68 hm2，可新增耕地32.46 hm2。研究结果的应用表明，该种方法得出的适宜性评价结果、新增耕地测算结果及潜力分区结果与当地实际较为吻合。

英文摘要：

Abstract: Unused land is the major reserve resource of cultivated land in China. But the quality of the unused land is generally relatively poor in many provinces. Because of the poor quality and complexity of explotation for the unused land, the difficulty of exploitation is often relatively large. This is especially true in the mountainous areas of Yunnan province, where there is an undulating terrain, and severe cutting or tearing action. Therefore, geoscience factors show significant spatial differentiation in the province. As a result, exploitation of unused land in Yunnan province is different from others. In order to guide a better space-time configuration of the exploitation for arable unused land in the province, exploitation suitability evaluation and potential area partition for the arable unused land is researched in this paper which focuses in a typical mountainous area county of Yunnan province which is named Midu for example. Based on combining spatial analysis techniques of the Geographical Information System (GIS), the Analytical Hierarchy Process (AHP), and the Delphi method, this study constructed the suitability evaluation for exploitation of the arable unused land model, the new land indices and additional land potential model, and the evaluation of the partition for potential area of the arable unused land model respectively. Then it was analyzed the exploitation suitability and partition of the potential area of the arable unused land in the mountain area of Yunnan province. The results show that the exploitation suitability of the unused land includes four grades which are the most suitability area, the medium suitability area, the barely suitability area, and the unfit area. The area of them is 71.21 hectares, 1177.39 hectares, 1681.00 hectares, and 62.00 hectares respectively, and accounts for 2.38%, 39.36%, 56.19% and 2.07% of the total area of the study area separately. The actual exploitation potential of the unused land in study area is 1248.60 hectares, and among them there are 977.45 hectares excepted to develop into cultivated land. The result of the partition is indicated so that the study area could be divided in five potential areas and one non-potential area. Among these areas, the actual exploitation potential from one-level to five-level are 164.97 hectares, 53.38 hectares, 210.64 hectares, 773.93 hectares, and 45.68 hectares respectively. The potential of additional cultivated land are 144.21 hectares, 46.66 hectares, 164.01 hectares, 590.11 hectares, and 32.46 hectares respectively. The application of the research results show that the suitability evaluation results, cultivated land estimation results, and potential partition results are consistent with the local circumstances.

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