

Type identification and potential evaluation of rural idle residential renovation: A case study of Yuzhong County, Longzhong Loess Hilly Region, China

Libang Ma¹, Tianmin Tao¹, Yao Yao¹, and Yawei Li¹

¹Northwest Normal University

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Abstract

The land problem is the key to the implementation of the Rural Revitalization Strategy, and the land suitability evaluation is the basis for the renovation and classification of the rural idle residential. Taking Yuzhong County in the Loess Hilly region of Longzhong, China as the research area, this study integrated multi-source data, such as rural residential ownership confirmation data, survey data of land use, high-resolution remote sensing images, and field research to construct an idle residential identification matrix. According to the evaluation results of ecological protection suitability, agricultural production suitability, and construction and development suitability, we followed the principle of “ecology first, agriculture second, after construction and setting,” and realize renovation zoning of rural residents through the advantage type identification method. The results show that the waste in rural residential is serious, and there are significant phenomena of “one household with two houses” and “one household with multiple houses.” The renovation potential of 1700 idle rural residential patches is 117.52 hm². In addition, there are significant spatial differences in the suitability of rural residents in Yuzhong County. The rational guidance and planning layout of rural residential renovation can be realized by identifying the type of renovation by the spatial combination of different land uses in terms of ecological protection, agricultural production, and construction and development suitability. This can provide an important decision-making basis for the rational utilization of rural idle residential and national land-space planning. Finally, the rural residential renovation should be guided by the national land space planning. The government should do a good job in the rural residential renovation planning, formulate a scientific plan for the renovation, relocation, and reuse of rural “hollow houses.” Adapting to local conditions, the government should gradually adjust and optimize the layout of rural residential land, improve the comprehensive utilization efficiency of rural land, stimulate the vitality of rural land resources, and promote the rural revitalization and the improvement of rural living environment.

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