

The Survey Research and Evaluation of Green Residential Building Based on the Improved Group Analytical Hierarchy Process Method in Yinchuan

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Abstract : Due to the economic downturn and the deterioration of the living environment, the development of residential buildings as high energy consuming building is gradually changing from "extensive" to green building in China. So, the evaluation system of green building is continuously improved, but the current evaluation work has the following problems: (1) There are differences in the cost of the actual investment and the purchasing power of residents, also construction target of green residential building is single and lacks multi-objective performance development. (2) Green building evaluation lacks regional characteristics and cannot reflect the different regional residents demand. (3) In the process of determining the criteria weight, the experts' judgment matrix is difficult to meet the requirement of consistency. Therefore, to solve those problems, questionnaires which are about the green residential building for Ningxia area are distributed, and the results of questionnaires can feedback the purchasing power of residents and the acceptance of the green building cost. Secondly, combined with the geographical features of Ningxia minority areas, the evaluation criteria system of green residential building is constructed. Finally, using the improved group AHP method and the grey clustering method, the criteria weight is determined, and a real case is evaluated, which is located in Xing Qing district, Ningxia. A conclusion can be obtained that the professional evaluation for this project and good social recognition is basically the same.

Keywords : evaluation, green residential building, grey clustering method, group AHP

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