

MCDM APPLIED TO THE ASSESSMENT OF SUSTAINABLE DEVELOPMENT FOR TAIWAN' S
COLLECTIVE RESIDENCE ENVIRONMENT

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Abstract

When sustainable development (SD) becomes the global trend on collective residence environment, it needs to transform the abstract concept into specific and practicable implementations. Hence, the correspondent of the concept to geographical space must be distinguished first, and the objective evaluation method on regional property must be developed next. The major type of Taiwan' s dwelling is housing with high-rise, high density and centralization. Besides, urbanization has pushed traditional "community" into "housing community" , which emphasizes the satisfaction of personal living quality, privacy and safety. For implementing SD effectively, this paper first searches the relevant possible impact factors. Moreover, the characteristics of location development and dwellers' actual demand are integrated by the fuzzy Delphi method (FDM) to extract the aspects and criteria for assessment. Since there is complex interdependence among assessment aspects/criteria, the analytic network process (ANP) method, which can solve such multi-criteria decision making (MCDM) problem effectively, is employed. The series of operations can transfer the subjective and qualitative perception problems into the objective and quantitative evaluation achievements. The results can be not only the foundation to implement the sustainable conception, but also the consultation and guidance for planning and practicing in the future.

Keyword : Sustainable Development, Housing Community, Fuzzy Delphi Method, Analytic Network Process