

Impact of different AHP structuring in an environmental decision making

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Abstract

The research investigates how different hierarchy structuring in Analytic hierarchy process (AHP) may affect the final results in the decision-making process. This problem is analyzed on a case study example from Rila monastery forest stands in Bulgaria. There were three similar and mutually overlapped hierarchies defined. Decision maker evaluated all of them and after the analysis of final results and consistency performance, he selected and revised the most appropriate hierarchy structure. Consistency check assisted in detecting the judgments which have strongly violated evaluation procedure. These mistakes are interpreted as a consequence of large number of required pair-wise comparisons. The research emphasizes the importance of properly defining hierarchy structure and recommends using consistency analysis as a guide and not as a directive for the revision of judgments.