SUSTAINABLE MANAGEMENT OF NATURAL RESOURCES AND EXTENSION STRATEGIES: AN APPLICATION OF ANP

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ABSTRACT

The purpose of this paper is to analyze the strategic and control criteria influencing the Sustainable Management of Land and Water Resources (SMLWR). This paper also examines priorities of extensional education strategies, including protection, supporting and networking, with respect to the SMLWR. This study was conducted in the Hable-Rud catchment which is an arid watershed affected by a high number of social and environmental disasters. The study is comprised of a survey using Delphi technique to explore relevant elements to the SMLWR and then analyzing decision networks using ANP techniques. Technical software including SPSSWIN and Super Decisions were used for statistical analysis and paired comparison analysis, respectively. The survey tools were several sequential questionnaires which were used for gathering information from 34 scientists and practitioners connected to the SMLWR in Hable-Rud. This article presents the decision networks under 13 high rank control criteria, for excellence in Extension Education, given out through benefits, opportunities, costs and risks (BOCR) merits. These consist of dependency and feedback between alternatives cluster and decision-makers' clusters in every subnet under control criterion. Two formulas including additive and multiplicative expressions were used for synthesizing the final model, and they both confirmed that the networking strategy is the best one with respect to the SMLWR. Sensitivity analysis shows that the priorities are responsible in increasing the cost or risk values but they are stable when the benefits and opportunities values change.

Keywords: ANP, BOCR model, catchment management, extension strategy, sustainable development

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