

ANALYTIC HIERARCHY PROCESS (AHP) IN SELECTING BEST GROUNDWATER POND

JANDRIC, B.Z., SRDJEVIC, B.M., The Institute for Water Management, Faculty of Agriculture, University of Novi Sad, Novi Sad, Yugoslavia

Selection of the best source/pond for water supply from aquifer systems may be understood as ultimate decision after systematic evaluation of appropriate alternatives is performed and related decision space is created. To choose the one for specific situation in a region and to claim that it is the best or at least the favorite one, systems approach appears necessary to be applied. The main reason is that it preserves all important issues are included such as: ponds' capacities, water quality, technical accessibility, protection and environmental impacts, exploitation economy, sociological influences etc. Besides, systems approach assures consistency of applied evaluating technique with decision-making process itself. In fact, the major issue is how to relate a variety of factors, i.e. to recognize their impacts and importance in real field conditions, and finally to determine dominance of one factor to another by investigating different dominant/weak structures. The Analytic Hierarchy Process (AHP) appears to be a flexible decision making tool for multicriteria problems such as selection of the best groundwater supply pond. It enables decomposition of a problem into hierarchy and assures that both qualitative and quantitative aspects of a problem are incorporated in evaluation process. AHP has been successfully applied in a recent case study for evaluating potential ponds in the Danube river valley in Vojvodina Province, Yugoslavia. Results of it's application are presented in brief and followed by extended discussion.