Dynamic AHP for Urban Water System Management

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Ttime-dependent priorities is a timely and important ANP development which has the potential to greatly improve urban water resources planning and management. In order to efficiently manage urban water systems, dynamic ANP is used to develop a framework for quantify and measure system performance. To this end, urban water system indicators are developed to capture either system serviceability or environmental impacts. A fuzzy inference model is proposed to aggregate the indicators into a summary index capable of evaluating overall system performance. Dynamic ANP involves making paired comparisons not only of the magnitude of relative dominance, but also of rates of change. Examples are given to illustrate how time dependent priorities can be used to improve environmental planning and management.