

# Jörg Dietrich: “Interactive Multi-Criteria Analysis for Integrated River Basin – the Werra Case Study”

## Abstract

Integrated river basin management is a process, which mainly considers hydrological, ecological and socio-economic conditions. Stakeholder participation is a key element of the planning and decision making process.

A joint research project worked out an ecological and socio-economic assessment of the Werra river basin according to the guidelines of the European Water Framework Directive. Within an interdisciplinary planning process, several alternative proposals for a programme of measures were developed.

In the planning stage decision makers need information about the possible consequences of management options at different functional and spatial scales. Many different criteria have to be negotiated to ensure a balance between ecology, economy and equity. This results in a problem of multi-criteria decision making. An interactive, learning-based multi-criteria method was integrated in a decision support system (DSS). The Reasonable Goals Method (RGM) focuses on the interactive visual exploration of the decision space (“what is possible”). Within a group decision session, decision makers are supported to perform a trade-off analysis between different criteria and negotiate a reasonable goal concerning the desired values of these ecological, economic and social criteria. The RGM selects several alternatives, which are close to the decision makers’ goal. The DSS provides background information for a detailed analysis of the results. The final decision will be made by humans.

## Curriculum Vitae

Birth: 1970, Frankfurt, Germany  
Education: 2000 Diplom: Geoecology, Technical University of Braunschweig  
Career: 1999 – 2000: Consultant, District Government of Braunschweig  
2001 – 2002: Abstractor, Ministry of Environment of the German Federal State of  
Lower Saxony, Department of Environmental Information Systems  
  
2002 – : Project Coordinator, BMBF Joint Research Project “Werra River  
Basin Management”, PhD Student at Prof. Schumann, Institute for  
Hydrology, Water Management and Environmental Engineering, Ruhr  
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