

Experiences in Application of Decision Support Systems for Consensus Building in International Waters: From Stand-Alone to Internet-Based

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The paper is devoted to discussion of the experiences gathered by the author during research and organizational activities associated with the development and application of Decision Support System to management of international river basins. Initially basic types of decision problems regarding water management systems are discussed. Consequently, characteristic features of the decision problems are presented, especially with respect to international river basins. Building upon characteristic features of decision problems, the role of stakeholders in decision problems is discussed. Since one of the most important aspect associated with the decision making in international rivers basins is related to consensus building, further discussion contained the paper is focused on presentation of practical experiences gathered during development and implementation of DSS in two international rivers basins to support build-up of the consensus between riparian countries and consequently to support resolution of selected decision problems. At first the case of the Zambezi River is presented. The activities related to this case study have been conducted in connection with the Zambezi River Action Plan implemented in cooperation with UNEP and involving participation of the representatives from 8 riparian countries. The second case study concerns the Ganges River. In both cases the underlying decision problems are presented and the approach adopted to address and resolve those problems is discussed. The discussion of respective decision problems and ways to resolve them is enhanced by the presentation of the basic concepts of technical implementations of Decision Supports Systems which have been developed in the framework of both studies. Finally conclusion and recommendations concerning further studies are provided.

Keywords: Decision Support Systems; international river basin; water management; consensus building; conflicting objectives; Zambezi River; Ganges River; hydropower generation; irrigation; policy planning; Internet.