

From traditional to sustainable water management: new approaches and tools

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Abstract The paper describes how the concept of sustainability has modified the vision of water perspectives and development strategies. Sustainability implies that water must not be regarded as an unlimited resource, but a limiting factor for development. This has given rise to the need for integrating the physical components of availability, demand and delivery of water into comprehensive simulation systems describing the interactive relations among the social, the economic, and the environmental aspects of the water allocation problem. Therefore, from the optimisation techniques of the 1980s, which results could be hardly understood by the stakeholders, the new tendencies aim at describing the consequences of possible interventions in terms of indicators ranging from simple physical and chemical to the complex environmental and socio-economical ones.

Key words decision support systems; DPSIR; indicators; scenarios; sustainability; water resources management

