



RESOURCE

Decision Support Systems for Integrated Water Resources Management with an Application to the Nile Basin

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Description / Abstract

Chapter 5 of the book "Topics on System Analysis and Integrated Water Resources Management"

Integrated water-resource management (IWRM) is the process of formulating and implementing shared-vision planning and management strategies for sustainable water-resource development and utilization with due consideration to all spatial and temporal interdependencies among natural processes and human and ecological water uses. Public policy actors develop consensus and decide on shared-vision strategies based on information generated and communicated by decision support systems (DSSs) and associated processes. Thus, the role of DSS is to leverage current scientific and technological advances in developing and evaluating specific policy options for possible adoption by the IWRM process. DSSs are developed and used by research institutions, government agencies, consultants, and the information technology industry. The greatest challenge in the development and effective use of integrated decision-support systems is the availability of qualified water-resources professionals. A comprehensive professional training and capacity-building program must be part and parcel of DSS development. Sufficient training, retention of qualified personnel, continuing education, and long-term capacity building must all be part of a general educational strategy.

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