

Water Evaluation and Planning (WEAP) – an Integrated Water Resource Planning Tool for the Jordan River Region

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Water Crisis in the Jordan River Region – need for Integrated Water Resources Management (IWRM)

- The Middle East is facing the highest water scarcity worldwide
- The water gap is expected to grow due to decreasing supply (climate change) and increasing demand (population growth).
- Science to support IWRM needs to be integrative, inter-disciplinary, reduce complexity for deriving feasible management options, address uncertainties (e.g. climate change)
- Tools are required to bridge between science and water management (involving stakeholders from a wide range of sectors)



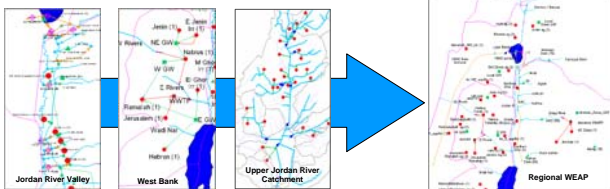
Water Evaluation and Planning (WEAP) – an application tool for IWRM in the Jordan River Region

WEAP is:

- an integrative planning tool
- fed with complex scientific results
- focussing on supply and demand
- application-oriented
- easy to learn and user-friendly

GLOWA JR WEAP – following a nested approach

Sub-basin information of 3 sub-regional WEAP systems is aggregated in a transboundary regional WEAP system

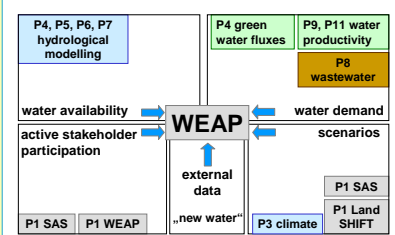


Scientific integration & application

The decision support tool WEAP is a major integration tool in the GLOWA JR project. The aim is to integrate scientific results from the different sub-projects and external data to transfer scientific results into application.

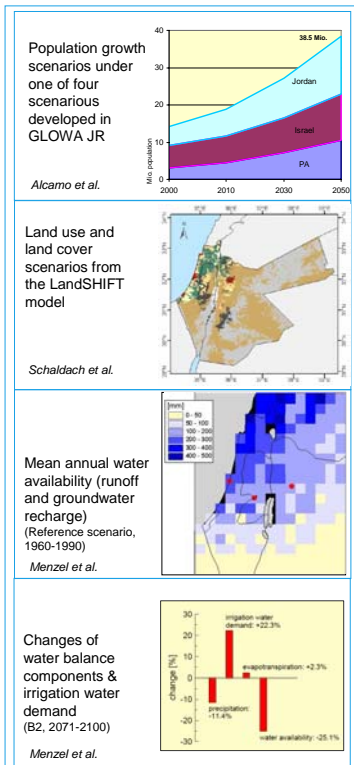
WEAP facilitates policy analysis to support the decision makers in the Jordan River Region

Data integration through WEAP



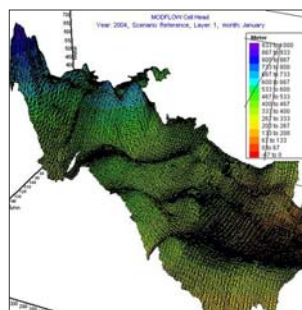
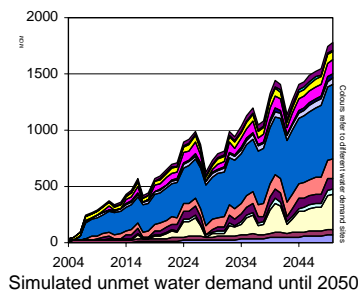
Case study: from scenario-based scientific results to policy analysis and decision support

Scientific results from GLOWA JR sub-projects



WEAP scenario analysis and decision support

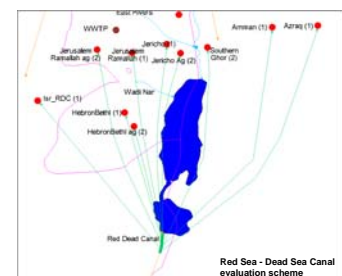
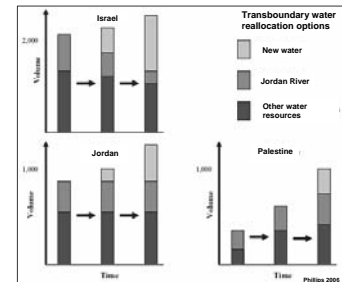
Analysis of water balance and components in the Jordan River Region under global change:



Assessment of groundwater yields and dynamics via WEAP-MODFLOW

Testing, evaluating and comparing different adaptation options:

- new water options (eg desalination)
- demand management (eg green water management)
- transboundary reallocations



A flexible IWRM planning tool for transfer of scientific results into application to facilitate policy analysis and support the decision makers in the Jordan River Region

- Integration of GLOWA JR results and external data
- Generation of informative water balances incl. water demand, supply and quality
- Sustainability analysis of alternative water strategies
- Implementation of WEAP as a key water management support tool in the region