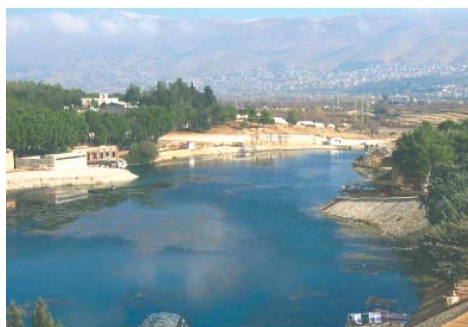


## Management, Protection and Sustainable Use of Water and Soil Resources in the Arab Region



*Barada spring (Syria) in a normal year*



*Barada spring (Syria) in a dry year*

**Commissioned by:** Federal Ministry for Economic Co-operation and Development, Germany (BMZ)

**Cooperation Partner:** Arab Center for the Studies of Arid Zones and Dry Lands (ACSAD)

**Period:** 2004 – 2008 (Phase III)

**Project Volume:** 1,600,000 €

Water management in many countries in the Arab world suffers from a missing link between the information base to its application for water management decisions. It is very difficult to estimate the results of management decisions in complex systems which are characterised by natural parameters (e.g. precipitation, evapotranspiration) as well as by human made factors (e.g. land use, population growth).

The project's objective is to develop a user-friendly, efficient, inexpensive and easily sharable technical instrument that will give decision makers the necessary insight into the current status and possible scenarios of the future development (Decision Support System, DSS).

Through visualizing and discussing the status quo and the possible scenarios with the relevant stakeholders, jointly decided and accepted water allocation can be fixed. This will reduce the conflict between concurrent water users and will lead to a more sustainable management of limited water resources for the current and future years.

The DSS was developed in two pilot areas (Zabadani Basin, Syria and Berrechid Basin, Morocco) and is supposed to be distributed among the ACSAD member countries. The elaboration started with discussing DSS-Options and -Contents with relevant stakeholders. Then the project established an information base for the pilot areas as the existing data was not sufficient for a comprehensive DSS. For the development of the DSS-software, two widely used systems were combined: WEAP for the surface parts of the hydrological cycle and information on human activities, and MODFLOW as a modelling system for groundwater bodies. With the combination of the two systems a comprehensive DSS for the major natural and anthropogenic factors was set up.

After the application of the system in the two pilot areas, an intense phase of institutionalisation will follow. This will include capacity building for water management institutions to enable them to use the DSS under their specific conditions. This should lead to a dissemination of the system in other countries thus contributing to a better integrated water resources management (IWRM) that is able to take into account the different aspects of the water cycle as well as the different water use patterns and other anthropogenic influences.

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