



## SYRIA

### WATER SECTOR PROGRAMME BARADA BASIN DAMASCUS RIF GOVERNORATE



<b>Client</b>	General Establishment of Drinking Water and Sewerage in the Rural Province of Damascus (GEDWSRPD), Harasta	<b>Scope of Services</b>
<b>Financing</b>	Kreditanstalt fuer Wiederaufbau (KfW)	<ul style="list-style-type: none"> <li>• Project Management</li> <li>• Preparation of Identification Study</li> <li>• Preparation of Concept and Feasibility Studies</li> <li>• Assessment of present situations</li> <li>• Baseline survey</li> <li>• Hydrological / hydrogeological studies</li> <li>• Studies (treated wastewater and sludge reuse, nitrate reduction)</li> <li>• Preliminary design</li> <li>• Land use planning</li> <li>• Environmental impact assessment</li> <li>• Cost estimation and financial evaluation including cost recovery and affordability</li> <li>• Institutional assessment</li> <li>• Recommendations on immediate measures</li> </ul>
<b>Duration of Services</b>	04/2005 – 06/2008	
<b>Cost of Implementation</b>	90.3 Mio. EUR Consulting fees: 2.3 Mio. EUR	

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## Brief Project Description

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The project area comprises 11 selected towns (Alsaida Zeinab, Yalda, Babella, Beit Saham, Akrafa, Jaramana, Almleha, Deir Alassafer, Zebdeen, Yabroud and Kara) in the Damascus Ghouta (oasis), with a total population of ca. 0.9 Mio. inhabitants. The area's hydraulic network comprises a mostly diffuse system of canals and trenchers. Formerly these supported agricultural irrigation and drainage; nowadays they often convey sewerage water. A proper concept for storm- and wastewater drainage does not exist for most parts of the urban zone.

The existing water supply and sewage networks were designed for small rural communities some 40 years ago but have been extended and strengthened in a haphazard manner to keep pace with the increasing demand. Wastewater is not treated but directly discharged to irrigation and drainage canals. The untreated wastewater is therefore either used for irrigation or is infiltrated into the underground.

The study shall verify the background and the technical and economic feasibility of the proposed project, as well as the social viability and environmental aspects of the programme. This shall be done on the basis of a demand driven approach to ensure that the communities obtain services consistent with their willingness and ability to pay. The objectives of the envisaged consulting services are to provide solutions, socio-economically, technically, operationally and organisationally adequate for:

- Improving the population's access to basic sanitation, with special regard to poor income groups
- Improved urban drainage and flood protection
- Adequate wastewater treatment, giving priority to appropriate and financially viable techniques and making the best possible use of treated wastewater and sewage sludge for agriculture and industry
- Increasing the efficiency of potable water supply by rehabilitation and enhanced operation of water supply networks
- Protecting natural resources, environment and health.

## Components of the envisaged Project

- a) Rehabilitation of water supply networks (relocation of wells in protected well fields, improvement of disinfection, provision of ground storage and elevated tanks, network restructuring and replacement, development of district metering areas, replacement of house connections and water meters);
- b) Removal of existing irrigation / drainage / sewer systems and replacement by new systems;
- c) Establishment of wastewater treatment plants;
- d) Establishment of infrastructures for the reuse of treated wastewater for irrigation and groundwater infiltration;
- e) Sewage sludge disposal as day-end-cover in solid waste landfill sites outside of the usable Ghouta aquifer area;
- f) Implementation of accompanying measures to support the Client in the implementation and sustainable operation of the project (Development of tariff systems to cover recurrent cost, training of the utilities' staff on technical and financial matters, customer survey, licensing and control of private vendors).



## The Study is implemented in phases:

- Assessment of present situation
- Selection of priority towns by a ranking system
- Concept study at pre-feasibility level for selected priority towns
- Feasibility study including Environmental Impact Assessment and socio-economic baseline survey