

# TECHNICAL REPORT NO. 1

## Proposal for a National Guideline for the Delineation of Groundwater Protection Zones

Authors: Dr. Armin Margane (BGR) & Dr. Nawal Sunna (WAJ Central Laboratory)

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### **Foreword**

This report is part of a series of Technical Reports published by the Jordanian-German Technical Cooperation project 'Groundwater Resources Management', which is being implemented by the Federal Institute of Geosciences and Natural Resources (BGR), Germany, and the Ministry of Water and Irrigation (MWI).

This

project started in June 2002 with a first phase ending in May 2005.

The main goal of the project is to elaborate and implement groundwater protection measures by

#### (1) Establishing **Groundwater Protection Zones**

*Activities:*

- Preparation of a national guideline for the delineation of groundwater protection zones
- Delineation of groundwater protection zones in two areas
- Coordination of the implementation of the groundwater protection zones with the municipalities
- Giving support to the municipalities in establishing groundwater protection zones and the monitoring of compliance with restrictions

#### (2) Applying **Concepts for Groundwater Contamination Prevention**

*Activities:*

- Elaboration of a criteria catalogue for groundwater vulnerability maps
- Preparation of groundwater vulnerability maps for two areas
- Giving advice to the planning authorities on consequences for land use decisions
- Investigating the effects of salt-water intrusion in the Azraq region

- Investigating the effects of anthropogenic contamination at selected sites
  - Increasing the capability of MWI staff to formulate land use recommendations for the protection of groundwater resources
- (3) Supporting the **National Water Master Plan (NWMP)** in the field of groundwater management

*Activities:*

- Preparation of a nationwide groundwater flow model
- Adjusting the rainfall-runoff model (NWMP-GTZ) and the groundwater flow model (NWMP-BGR) to one another
- Integration of the results of the groundwater protection studies into the NWMP
- Supporting the updating of the NWMP groundwater report.