Groundwater in Emergency Situations

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ABSTRACT

The GWES project is one of the activities of the Implementation plan of the sixth phase of International Hydrological Programme (IHP) adopted by the 15th Session of the Intergovernmental council of IHP in June 2002. In the structure of IHP VI GWES project is part of Theme 2, Focal area 2.2 “International River Basins and Aquifers”. The activities of the GWES project will be particularly focused on the identification and management of strategic groundwater bodies to be used for emergency situations as a result of extreme hydrological events or in case of conflicts. GWES project intends also to contribute to WWAP and PC-CP objectives.

Floods in many parts of our planet often resulted in serious problems in public drinking water supply. The conventional water supply systems in the affected regions usually collapsed and had to be substituted by import of water in bottles and tanks on a large scale to prevent infections diseases. Apart from rescuing of the endangered population, the distribution of drinking water become most important among the emergency activities. Several other events (droughts earthquakes, landslides and the “Niño” impacts) affected also many countries with a similar effect like floods.

To eliminate the dependence of population on vulnerable water supply systems during the climatic or geological hazards, resistant, low vulnerable groundwater resources protected from the earth surface and with a long residence time should be identified and evaluated. They should substitute the standard drinking water supplies and eliminate the consequences for the time after the catastrophic events. However, the GWES project will be focused also on transboundary groundwater bodies, which development and pollution can lead to the international conflicts.

The objectives of the GWES project: 1/to elaborate effective methodologies for determining groundwater resources safe against extreme catastrophic event, 2/ to introduce suitable hydrogeological and isotope-hydrological techniques into the investigation of such groundwater resources, 3/ to elaborate an inventory of resistant aquifers in selected pilot regions and present case studies of the participating countries, 4/ to elaborate and publish a guideline for identification, investigation and management of strategic groundwater bodies to be used for emergency situations (extreme climatic events, geological hazards, international conflicts).