



**Workshop on  
DEVELOPING REGIONAL COOPERATION  
FOR SHARED KARST AQUIFER MANAGEMENT IN SEE**  
27-28 June 2008  
Thessaloniki, Greece

**Country reforms on legal, institutional and technical issues  
Country Presentation from Turkey**

## Plan for Presentation:

1. Current situation regarding water resources management in Turkey
2. Responsible institutions
3. Coordinating Ministry
4. Recent legislation and reforms for implementing EU regulations
5. Groundwater vs. surface water management issues

## Current situation regarding water resources management in Turkey

In water resources development and protection of water various **state** and **private** organizations are interested and they are in charge of development. In institutional base, in this structure there are **three stages**:

1. **Planning and Decision making** (Prime Minister office, State planning Department (DPT), and related Ministers)
2. **Development and Management** ( DSI, EIE, Bank of Provinces, Governor Offices)
3. **End Users** (Farmers, Water Unions and Cooperatives)

**The investing organizations** in water resources are DSI, EIE, Ministry of Environment and Forestry, and Bank of Provinces (İller Bankası)

**The observing and consulting organizations** are Ministry of Agriculture, General Directorate of State Meteorological Organization (DMI), Governor offices in cities, Municipalities, Ministry of Environment and Forestry, Ministry of Health, General Directorate of Special Environment Areas, DPT, State Statistical Organization and universities.

DSI is main responsible organization for the planning, development, and management of water resources.

### In this contest, DSI

- collects all kinds of water data and analyse the data,
- makes field investigations and
- makes recoinnaisance studies,
- preliminary feasibility studies,
- master plan,
- feasibility study,
- final project.

DSI deals with the **construction** of the project as well as the **operation and maintenance** of irrigation networks, hydropower production, domestic water supply, flood control projects, and environmental protection.

The institutional structure of water resources management is based on **to answer the demand** in water resources , and the they have to be in accordance with the **national development plans**.

For the protection of waters, recently “Water Pollution Control Directives” and “Environmental Impact Assessment Directives” were put into force.

The “Water Law Framework” is ready.

NOTE:

In the integrated water resources management, most of the time, the water management concept of EU water directives, can hardly overlap with water resources management of Turkey due to important national priorities of the country.

## **The work definition of Ministry Environment and Forestry**

- Protection and improvement of the environment
- Optimum utilization and protection of the natural resources of rural and urban areas
- Preservation and improvement of the natural flora and fauna of the country
- Prevention of environmental pollution
- Preservation and enhancement of forests
- Improvement of the economy and living conditions of the villagers living within and/or at close neighborhood of national forests
- Development of forest industry.



## **Main service units in Ministry of Environment and Forestry**

- General Directorate for Environment Management
- General Directorate for environment impact assessment and planning
- General Directorate for erosion control and reforestation
- General Directorate of forest-villager interactions
- General Directorate for nature protection and national parks
  
- Directorate for research and development
- Directorate for international relations and European Union Office
- Directorate for education and printing

## **GENERAL DIRECTORATES**

1. General Directorate of State Meteorological Works
2. General Directorate of Forestry
3. General Directorate of State Hydraulic Works
4. Directorate of Special Nature Preservation Regions
5. Directorate of Strategic Development
6. IPA Coordination and Application Center

## **Expert groups in the Ministry of Environment,**

(in addition to the regular ministry works and personnel)

- Environmental Higher Board,
- Environmental Council,
- Local Environmental Units

## **The scientific organizations concerned with the environmental issues**

- Scientific and Technological Research Council of Turkey (TÜBİTAK)
- Prime Ministry, State Planning Organization
- Environmental Engineering Departments of the Universities
- Environmental Research Centers

## **In Turkey, NGO's which are working on international and national level**

- The Society of Nature Protection in Turkey (founded in 1955)
- The Foundation of Environment Protection and Greening (founded in 1972)
- Foundation for Protection and Promotion of the Environmental and Cultural Heritage ( founded in 1990)
- Foundation of Environmental problems (founded in 1978)
- The Society of Natural Life Protection
- The Turkish Foundation for Combating Soil Erosion, For Reforestation and the Protection of Natural Habitats.

## **The Other Volunteer Organizations in Turkey are,**

The society of Protection Hunting and Wild Life

The society of Presentation and Protection Environmental  
and Cultural Values

The society of Ecology and Environment friends

The Society of Environmental Education

## **International Agreements Turkey ratified**

### **European Environment Agency (EEA);**

To create a data base, thematic reports, to work on integrated environmental evaluation, to support the periodic reporting system, to build infrastructure for monitoring , and finally to set up the administrative units to realize these jobs, EEA was set up at May 7.1990. EU and some of the EFTA countries are members of EEA, and they are connected to thematic network of European Information and Observation Network (EIONET).

In 2000, Turkey applied for membership for EEA

In 2003 negotiations started for membership

In October 2000, Turkey and EU signed the agreement, so Turkey became a member of EEA and EIONET, and this was ratified by Turkish parliament on 23/1/2003 with the law No: 4794.

## **Environmental Assessment Report No 10**

This is the third pan-European state of the environment report produced by the EEA. It was prepared for the 'Environment for Europe' Ministerial Conference being held under the auspices of the UN Economic Commission for Europe in Kiev, Ukraine on 21-23 May 2003.

This report is the most comprehensive up-to-date overview currently available of the state of the environment on this continent. The report also analyses how the main economic driving forces put pressure on the European environment and identifies key areas where further action is needed.



## **GROUNDWATER INVESTIGATIONS IN TURKEY**

**Groundwater investigations comprise**

- **Reconnaissance level**
- **Planning stage hydrogeology**
- **Local individual projects.**

## **Groundwater investigations at reconnaissance level**

**Those groundwater investigations carried out before 1969, at basins, plains and individual localities are large scale and at reconnaissance level works. All the reports on Groundwater reserve computations and estimates are in this group. During this period, by evaluating the available data, field investigations, geophysical investigations, test bore holes` data, the geological structure of the aquifers, rate of water yields of aquifers, type, depth, thickness of the water bearing formations, the quality of water and hydrology were determined and the ground water investigation and reserve reports were prepared. Till 1969, the ground water investigations at reconnaissance level of 537 779 km<sup>2</sup> area has been completed.**

## **Groundwater investigations at planning stage**

**Based on the reconnaissance level results, at those plains with important reserve of ground water, more detailed field works, geophysical investigations, water chemistry, hydrogeology studies and additional test boreholes, the hydro-geological investigations at planning level are realized. Based on the results of more comprehensive study, the hydraulic parameters, and the ground water reserves of the aquifers are determined and the ground water development projects are prepared. Between 1966 and 2004, such detailed investigations for 135 400 km<sup>2</sup> land were completed, and additionally for about 900 km<sup>2</sup> area the reports available were revised. In 2005, hydro-geologic investigation report at planning level for additional 1000 km<sup>2</sup> area was planned (DSI, 2007).**

## **Individual hydro-geologic investigations**

**Outside the areas where hydro-geologic investigations at planning stage completed, for irrigation, domestic and industrial water supply, local ground water resources are investigated separately. In the year 2004, 120 and in the year 2005, 150 individual hydro-geologic investigations were completed**

**Till the end of the year 2004, at 142 074 points geophysical measurements were completed and 4 262 220 m long test boreholes were drilled, and in the year 2005, at 800 points geophysical measurements were completed, and 24 000 m long test boreholes were drilled (DSI, 2007).**

**Till the end of the year 2004, the useable safe ground water yield has been estimated as 13.6 km<sup>3</sup>/yr, and 5 km<sup>3</sup>/yr part out of this volume, has been allocated for the irrigation of 600 000 ha (DSI, 2007).**

## **GROUNDWATER IRRIGATIONS**

**Turkish Hydraulics Works (DSI), Turkish Soil-Water Conservation Organization (TOPRAKSU) of General Directorate of Rural Affairs (KHGM), and Governors Private Administrations of Cities (IL OZEL IDARELERI) are the main organizations dealing with ground water irrigation projects since 1960`s. DSI provides the infrastructure of big projects. DSI drilled the wells, purchase and set up the moto-pumps, provides energy of the system and transfers the system to local cooperatives and/or water unions. KHGM was responsible for the construction and operation of the irrigation networks till 2005.**

**At present, IL OZEL IDARELERI replaced KHGM for project realization. The State Agricultural Bank (ZIRAAT) provides credit for groundwater projects. If applied, the total project cost is given as credit on condition that 15 years total payment period with no payment for the first three years.**

**The farmers living at plains where ground water development is feasible are encouraged to set up “Irrigation Unions” and apply to DSI for turn-key ground water development. Local municipalities, agricultural operative units, cooperatives can also apply to DSI for the project developments at their regions.**

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