



SEMIDE
EMWIS

TURKEY National Focal Point



Euro-Med Conference of Water Directors

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State Hydraulic Works (DSI)

24-25 November 2005
Rome, ITALY

Turkey is located on the crossroads of Europe and Asia



SOME STATISTICS

- **Turkey's Population** : 70 million
- **Turkey's Surface Area** : 78 million ha
- **Rural population** : 35 %
- **Urban population** : 65 %
- **Annual increase** : 1.5%
- **Population density** : 88 people/per
km²
- **GNP per capita** : ~US\$ 5,000

DEVELOPMENT AND CONSERVATION OF WATER RESOURCES IN TURKEY

decision making

**Prime Ministry,
State Planning
Organization and
ministries**

executive level

**Governmental
organizations
under the
ministries**

users level

**governmental and
non-governmental
organizations**

ORGANIZATIONS RESPONSIBLE FOR DEVELOPMENT OF WATER RESOURCES

**General Directorate of
State Hydraulic Works
(DSI)**



**General Directorate of Rural Services
(GDRS)**

**General Directorate of Bank of Provinces
(Iller Bank)**

**General Directorate of
Electric Power Resources Survey
and Development Administration (EIE).**

DSİ

- ❑ **DSİ is a state organization established in 1954 in order to develop land and water resources in Turkey**
- ❑ **DSİ is working under the Ministry of Natural Resources**
- ❑ **DSİ is the main executive organization working in water sector by investing 3 billion USD each year which constitutes about one third of national investment budget.**

DSI ACTIVITIES ARE MAINLY AT FOUR GROUPS



1. INVESTIGATION AND PLANNING

- Data collection and surveys,
- Project planning



2. DESIGN AND CONSTRUCTION

- . Agriculture
- . Energy
- . Services
- . Environment



3. QUALITY CONTROL

4. OPERATION

- . Irrigation and flood control



DSI'S ORGANIZATIONAL STRUCTURE

DSI GENERAL DIRECTORATE PERFORMS ITS ACTIVITIES THROUGH GENERAL DIRECTORATE LEVEL AND 13 DEPARTMENTS AS SENIOR STAFF AT THE HEADQUARTERS AND 26 REGIONAL DIRECTORATES IN THE FIELD

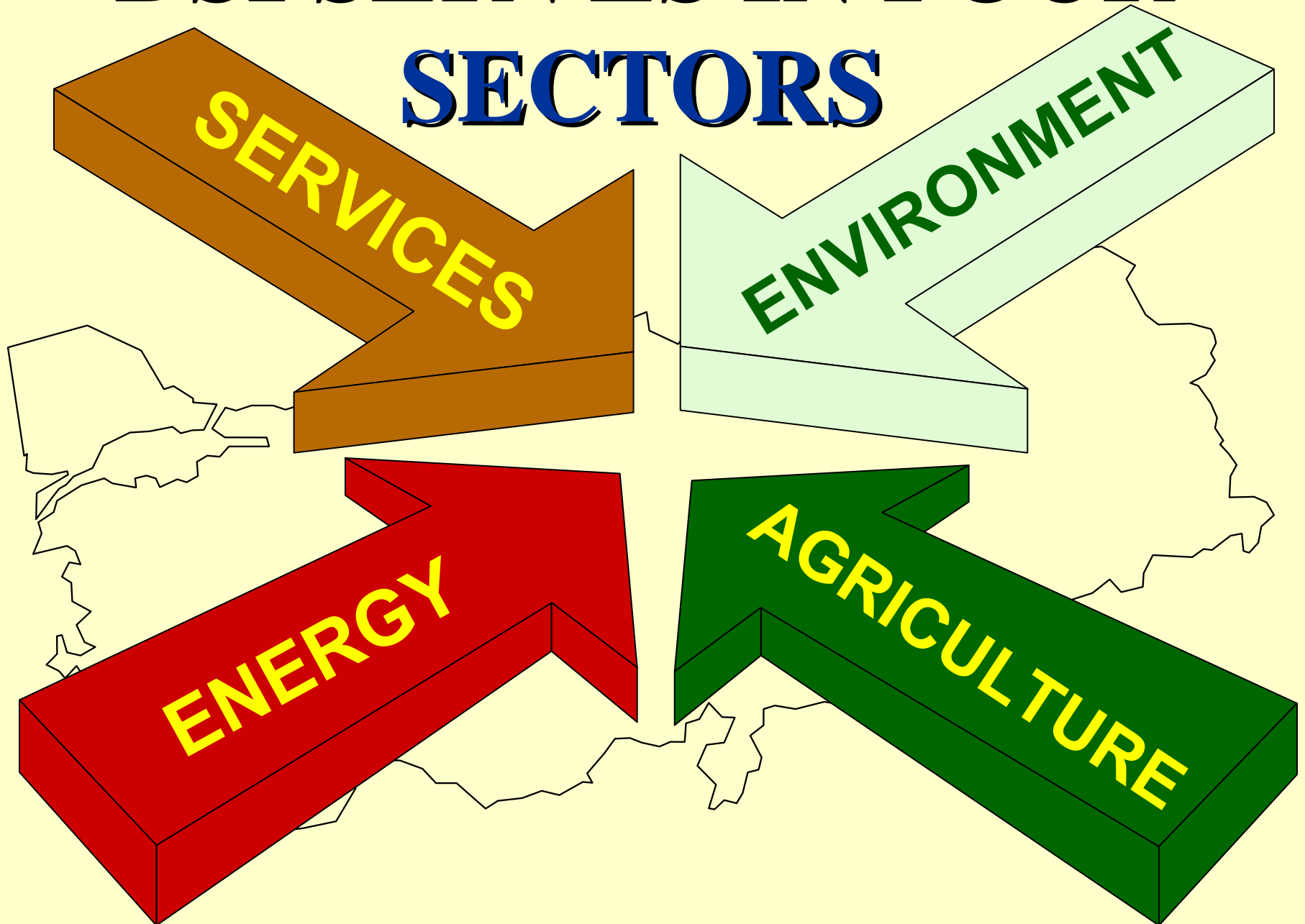
GENERAL DIRECTORATE LEVEL

CENTER

FIELD




DSI SERVES IN FOUR SECTORS



WATER RESOURCES IN TURKEY

Mean annual precipitation	: 643 mm
Surface area of Turkey	: 78 million ha
Mean annual precipitation volume	: 501 billion m³
Evaporation	: 274 billion m³
Leakage to aquifers	: 41 billion m³
SURFACE WATER	
Annual surface runoff (gross)	: 186 billion m³
Annual available surface water	: 98 billion m³
GROUNDWATER	
Annual safe yield	: 14 billion m³
TOTAL EXPLOITABLE WATER (net)	: 112 billion m³

HYDRAULIC STRUCTURES IN TURKEY

	IN OPERATION			UNDER CONSTRUCTION/ PROGRAM		
	By DSI	OTHER ORGANIZATIONS	TOTAL	By DSI	OTHER ORGANIZATIONS	TOTAL
1 January 2005						
DAMS (Quantity)	544	11	555	209	1	210
HEPPs (Quantity)	53	82	135	53	17	70
Installed cap.-MW	10,215	2,416	12,631	8,982	465	9,447
Generation-GWh/year	36,481	8,844	45,325	29,581	1,725	31,306
SMALL DAMS (Qty)	47	617*	664	1	43	44
IRRIGATION (million ha)	2.77	2.12	4.89	0.8	-	0.8
Water Supply (billion m ³)	2.50	0.46	2.96	1.09	-	1.09
FLOOD CONTROL (million ha)	1.0	-	1.0	0.5	-	0.5

(*) Small dams constructed by GDRS for irrigation purposes

WATER RESOURCES ASSESSMENT ACTIVITIES IN TURKEY HYDROMETEOROLOGICAL OBSERVATION SYSTEM

DSI Operates

- **1113 stream flow stations,**
- **126 lake level gauging stations,**
- **150 snow gauging stations,**
- **392 meteorological stations,**
- **1000 water quality measurement stations...**

Water is the life ...



SEMIDE
EMWIS

Euro-Mediterranean Information System
On Know-How In The Water Sector
www.emwis.org

General Directorate of
State Hydraulic Works
www.dsi.gov.tr



EMWIS - TURKEY
NATIONAL
FOCAL POINT

<http://www.emwis-tr.org>

Emwis focal point in Turkey held by DSI

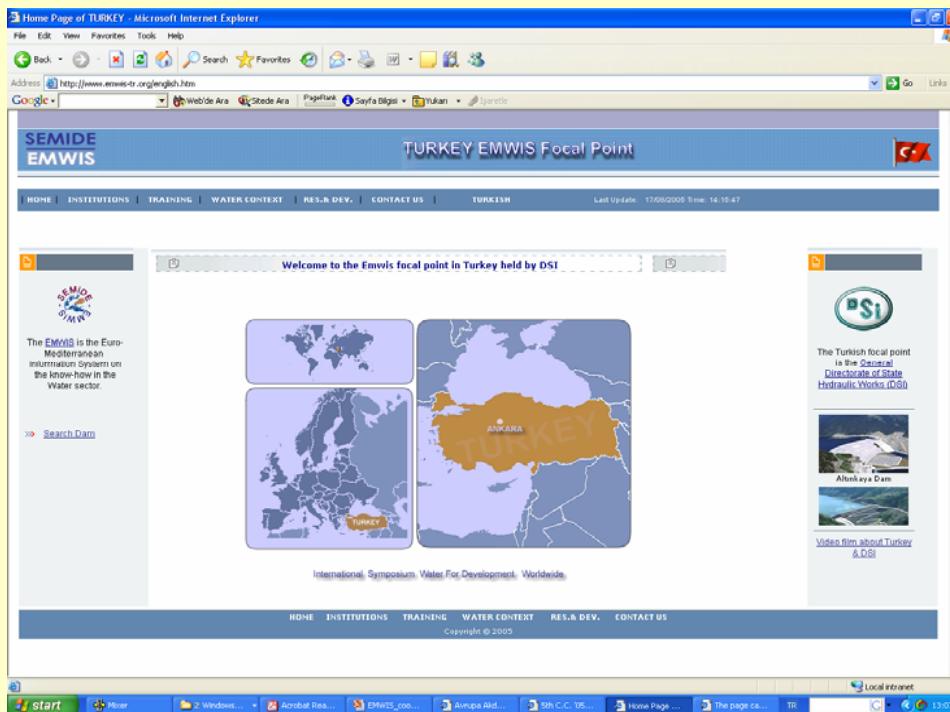


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Overview of EMWIS Phase I



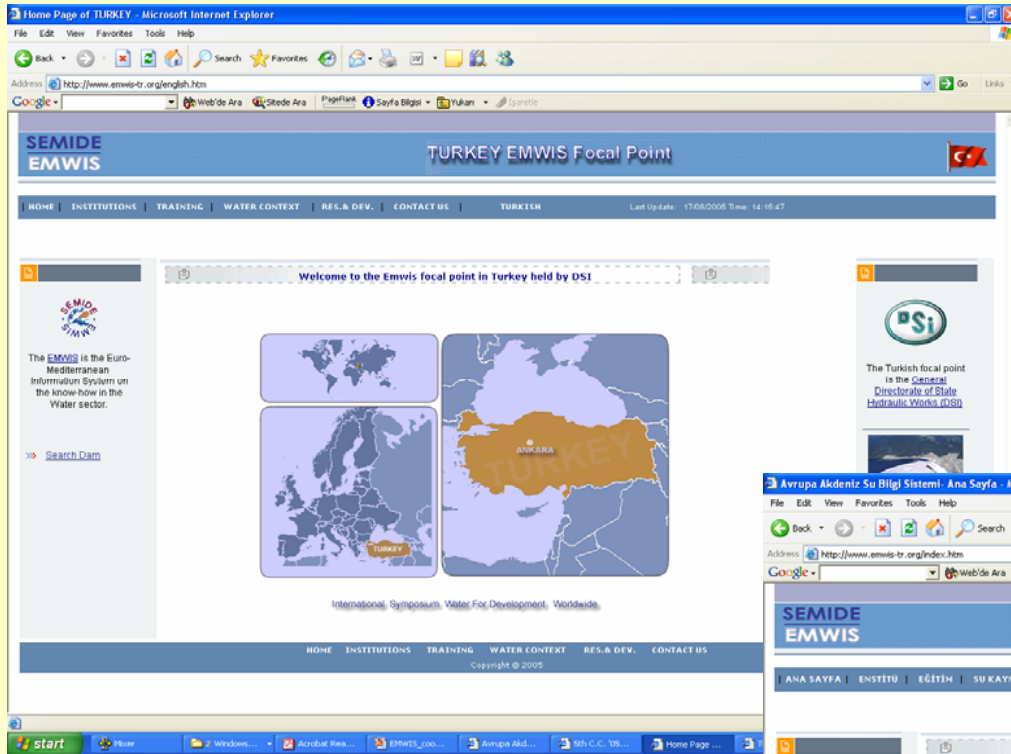
During the Phase I, English and Turkish version of the web site established

Information along the 5 main EMWIS topics published...

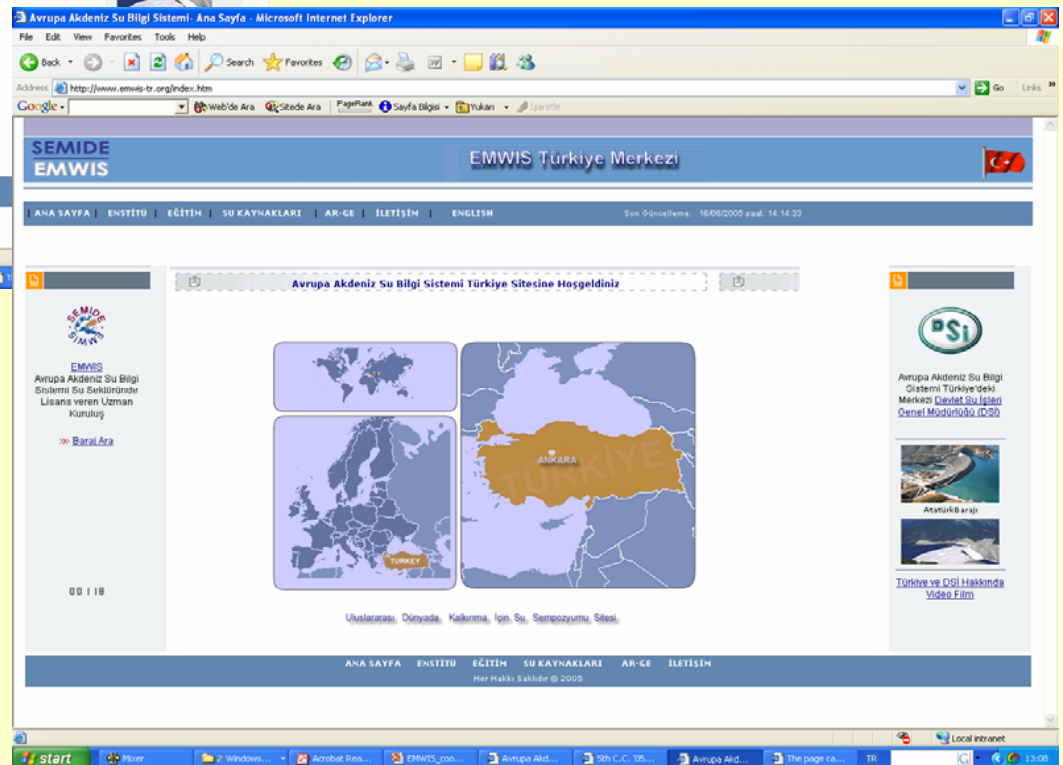
Hardware and software infrastructure renewed

Internet access improved

Re-design of web site



Turkish version





- Being the primary authority in the planning, construction, supervision and operation and the maintenance of water resources projects, DSI, in parallel with the EMWIS implementation, has started to modernize existing system of planning and management of water resources.



- In order to establish for DSI a sound management and information network, which is also the main characteristic of e-government (e-dsi), studies have been made and programs formed by DSI.
- Programs formed by nine modules, which are known as **MISNET** has been completed and put in operation. These modules are documents, payroll, staff, budget applications, investment, stock, purchasing, inventory of fixtures and machine operations.
- Work on implementation of Geographic Information System (**GIS**) and **SCADA** system (to observe and evaluate water sources) are on progress.



Establishment of a National Water Information System is identified as the most important improvement in the modernization process of DSI.

Studies has been started and considerable progress has been attained.



Feasibility Study on National Water Information System

- ┌ The feasibility study for the implementation or improvement of the National Water Information Systems was conducted on last October in DSI by the experts selected by EMWIS Technical Unit.
- ┌ The objective is to evaluate the technical, economic and organisational structure throughout the countries.
- ┌ These studies is focused on recommendations and roadmap and will helpfull for us in the stage of implementation and enhancing our system.



Conclusion

- ┌ We believe the significance of sharing information and enhancing co-operation in order to achieve more efficient water management and planning..
- ┌ EMWIS is very useful tool for regional co-operation gathering the main authorities of the water sector in the Partnership Country and allows exchanges of know-how between institutions in the field of water.

EMWIS Promotion Seminar

“Water Information Systems of Turkey and EMWIS”

15 December 2005 , Ankara

┌ Topics

- **EMWIS activities and progress**
 - **National Water Information System**
 - **Remote sensing and GIS applications in WRM**
 - **Integrated WRM**
 - **TEFER (Turkey Emercengy Flood and Earthquake Recovery) project**
 - **MEDA-Water program and projects**
 - **EU WFD implementation activities and pilot project**
 - **Presentations of other stakeholders**
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- ┌ **Translation English and Turkish**
 - ┌ **Around 150 participants**
 - ┌ **Announcement through internet (www.emwis-tr.org, www.dsi.gov.tr)**