



**Water Framework Directive and
Natural Resources Assessment Approach
within the scope of
River Basin Management Plans**



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Outline



- WFD and Economic Approach
- River Basin Management Plan Process and Economic Approach
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- Economic Aspects of WFD
- WFD Policy Decision and Management Cycle
- Projects
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- Natural Resource Accounting Technical Assistance Program



Economic Approach within the context of WFD



The Water Framework Directive clearly integrates economics into water management and water policy making processes.

Directive requires the following to achieve the environmental objectives (i.e. **good water status for all waters**) in the most efficient manner:

- Implementation of Economical principles
 - (i.e. **Polluter Pays Principle**);
- Utilization of Economical approaches and Tools
 - (i.e. **Cost-Efficiency Analysis**);
- Considering Economical Tools
 - (i.e. **Water Pricing**).



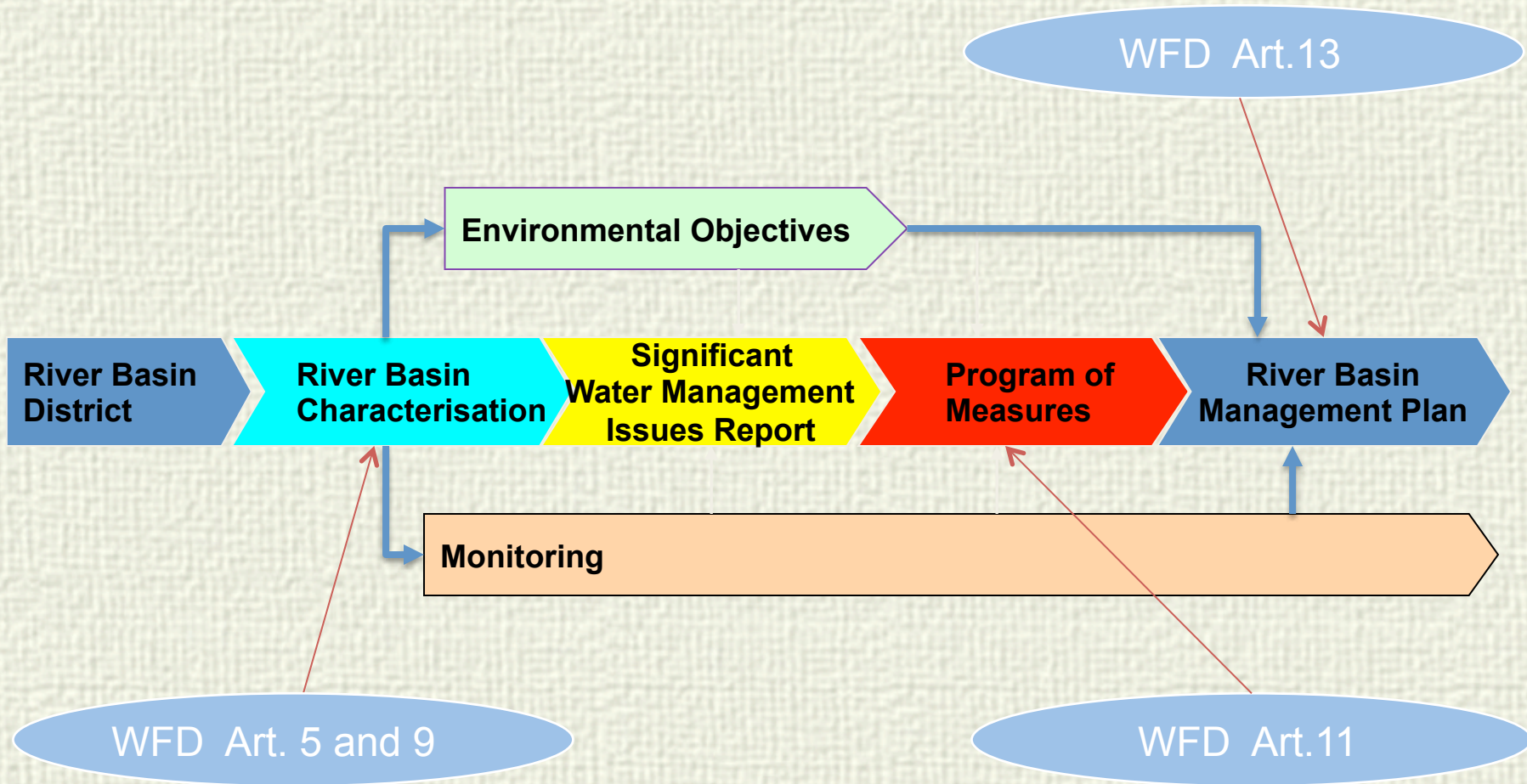
ROLE OF ECONOMIC PRINCIPLES WITHIN IMPLEMENTATION OF WFD



With increasing scarcity of both water resources and financial resources allocated to the water sector, **economic analysis and expertise** is increasingly called for in supporting water management and policy decisions. Overall, a sound economic analysis can help:

- Understanding the economic issues and trade-offs at stake in a river basin
- Evaluating **the least-costly way for the economy** or for specific economic sectors achieving well-defined environmental objectives for water resources.
- Assessing the **economic impact of proposed Programmes of Measures** aimed at improving water status
- Evaluating regions or water bodies where environmental objectives need to be made **less stringent to account for economic and social impacts** in a search for overall sustainability
- Supporting the **development of economic and financial instruments** which may be effective in reaching environmental objectives.

Stages of RBMP Process According to WFD



WFD Economy Components in the stages of RBMP



Economic Analysis of Water Uses Cost Recovery of Water Services



Article 5: Characteristics of the river basin district, review of the environmental impact of human activity and economic analysis of water use according to Annex III

An **economic analysis of water uses** must be conducted according to specifications in Annex III as part of the analysis of the River Basin characteristics. The economic analysis shall contain enough information in sufficient detail:

- Relevant calculations should be made necessary for taking into account **cost recovery of water services**, taking account of long term forecasts of supply and demand for water in the RBD and, where necessary:
 - a) Estimates of the volume, prices and costs associated with water services.
 - b) Estimates of relevant investment including forecasts of such investments.
- Judgements should be made about the **most cost effective combination of measures** in respect of water uses to be included in the Programme of Measures under Art.11 based on estimates of the potential costs of such measures.



Cost Recovery of Water Services Water Pricing Policies



Article 9: Recovery of costs for water services

Account of the principle of recovery of the **costs of water services** should be taken, including environmental and resource costs, according to the **polluter pays principle**.

It shall be ensured in stated time frame that:

- **Water pricing policies** provide adequate incentives for users to use water resource efficiently, and thereby contribute to the environmental objectives of WFD.
- An adequate contribution of the different water uses, disaggregated into at least industry, households and agriculture, to the **adequate recovery of the costs of water services**.



Program of Measures

Economic Analysis of Water Uses



Article 11: Programme of measures according to economic and fiscal instruments in Annex VI

Preparation of **Programme of Measures** linked to the analysis performed based on **Article 5** and including as basic measure measures respected as appropriate for the purposes of **Article 9** (i.e. recovery of costs for water services)

Article 13: River Basin Management Plans according to Annex VII

The River Basin Management Plans have to cover:

- A summary of the **economic analysis of water use** as required by Article 5 and Annex III.



Economic Aspects of WFD



- An **economic analysis of water use** in the river basin along with the technical inventory (Article 5)
- The **principle of cost-recovery of water services** and the need “that water pricing policies provide adequate incentives for users to use water resources efficiently...” (Article 9)
- The **most cost-effective combination of measures** in respect of water uses to be included in the programme of measures based on estimates of the potential costs of such measures (Article 11, Annex III)
- A Baseline-Scenario which takes “account of long term forecasts of supply and demand for water in the river basin...” (Annex III)
- Exemptions from the objective to achieve the Good Water Status (on time) based – among other criteria – on “disproportionate costs” (Article 4)

Cost Recovery in WFD

Environmental costs (External)

- Water related Environmental costs
- Non-water related Environmental costs

Resource costs (External)

- Scarcity costs

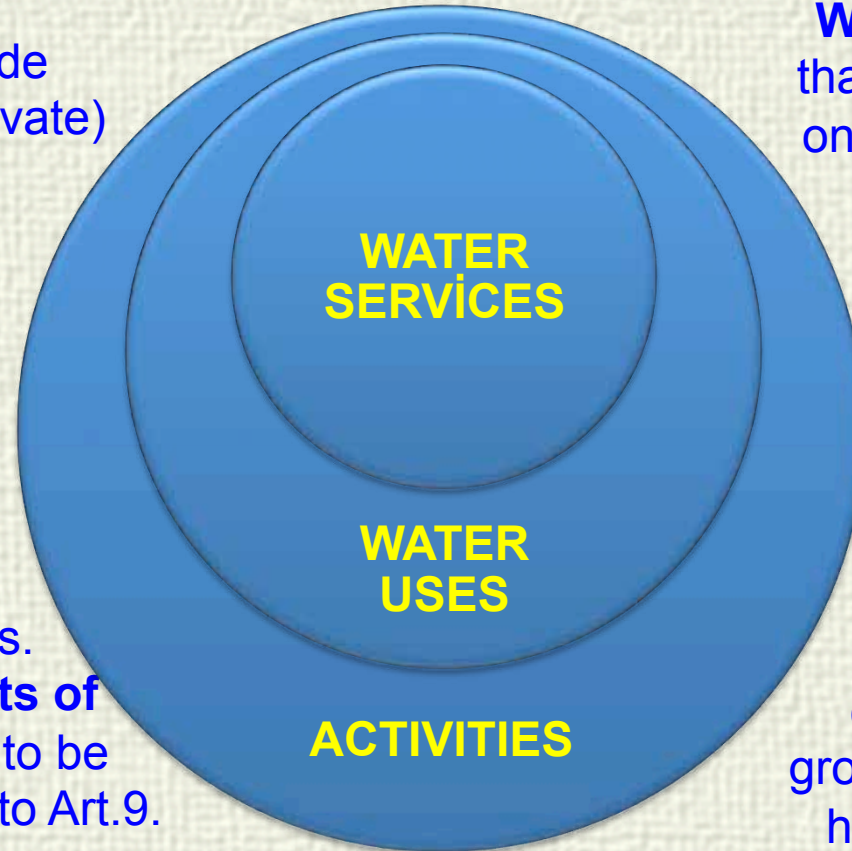
Financial Costs (incl. internalized environmental and resource costs)

- Administrative costs
- Capital and O&M costs
- Other direct costs

Economic Costs

Water Uses and Water Services

Water Services include all services (public/private) of abstraction, impoundment, storage, treatment and distribution of surface water or groundwater, along with wastewater collection and treatment facilities. **Recovery of the costs of water services** have to be accounted according to Art.9.



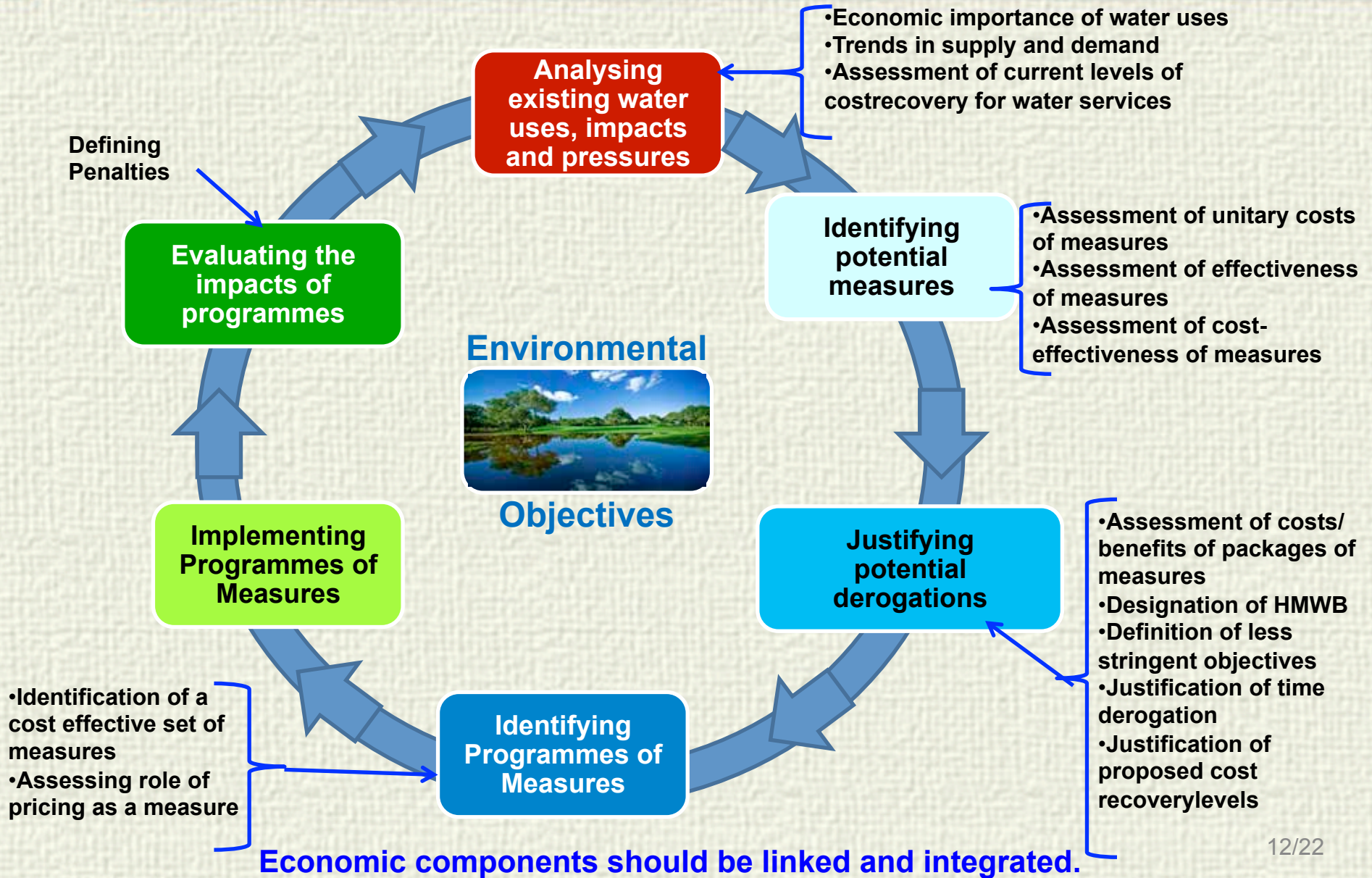
Water Uses are all activities that have a significant impact on water status, according to the analysis of pressures and impacts developed in accordance to Art.5 and Annex III.

Economic analysis must be performed for all water uses .

It should be ensured that an adequate contribution of the different water uses, grouped into at least industry, households and agriculture, to the recovery of the costs of water services (Art.9)

Some **activities** with no significant impact on water status are neither water services nor water uses.

WFD Policy Decision and Management Cycle





Elements of RBMS

1. General Definition of River Basin District
2. Pressures and Impacts of Human Actions
3. Protected Areas
4. Monitoring
5. Environmental Objectives
6. Economic Analysis of Water Usages
7. Program of Measures
8. Register of Related Projects and Programs
9. Public Informing and Public Consultation
10. List of competent authorities
11. Procedures on Public Information and Consultation



Projects



Conversion of River Basin Protection Action Plans into River Basin Management Plans Project

- Project Contract is signed on 5th of December 2014 among CFCU, EU Delegation and the Consortium.
- Official beginning of the project took place on 29th of December 2014.
- Projects' period is 3 years with 7.840.000 Euro of budget.
- Meriç-Ergene, Susurluk, Konya ve Büyük Menderes Basins will be the pilot basins.



Projects

Outputs of Conversion of River Basin Protection Action Plans into River Basin Management Plans Project

Outputs (for each basin)	Scheduled
Monitoring Report	Due end of 1st year(2015)
Gap Analysis Report	
Pressure and Impact Report	
Significant Water Management Issues Report	Due end of 2nd year(2016)
Characterization Report	
Environmental Objectives Report	
EQS by-law	
Program of Measures Report	Due end of 3rd year(2017)
RBMP	
National Implementation Plan (National Water Plan)	

Projects

Technical Assistance on Economic Analyses within River Basin Management Plans and Water Efficiency Aspects in 3 Pilot River Basins in Turkey

- Financing Contract with European Commission is signed under the IPA-1 components.
- Projects' period is 3 years and 4.500.000 Euro of budget is reserved for this project.
- Yeşilirmak, Akarçay and Batı Akdeniz Basins will be the working basins.
- Additionally it is planned to make quick scanning for Meriç-Ergene, Konya, Büyük Menderes, Susurluk Basins.
- ToR of the Project is at the stage of preparation.





Projects



With in the scope of the Project;

- Economical Analysis of RBMPs will be completed at EU standarts,
- Cost Recovery level covering the environmental costs and resource costs of water services at actual situation will be evaluated,
- Capacity regarding the economical principles and applications of economical tools for RBMPS will be improved,
- Program of Measures will be developed and capacity improvement actions on evaluation of costs and efficiencies will be operated,
- Technical studies on increasing the water efficiency will be done,
- Studies on reuse of wastewater in agricultural irrigation will be done,
- Studies on the management and removal of water loss and leakages in the drinking water supply systems will be done.



NATURAL RESOURCE VALUATION



Natural Capital Accounting and WAVES

- Natural capital are the resources which are recognizable and measurable such as minerals and energy, forest timber and water. It also includes ecosystems producing services that are often invisible such as air and water filtration, flood protection, carbon storage, pollination for crops, and habitat for fisheries and wildlife. They are not internalized in markets, how much they contribute to the economy is not exactly known.
- The concept of natural capital accounting has been known for several decades but progress in has been little.
- A big development along this concept is made by UN Statistical Commission through System for Environmental Economic Accounts. SEEA gives a method accounting for material natural resources like minerals, timber, and water. Demonstration of this method to prove its benefits is essential.
- The Wealth Accounting and Valuation of Ecosystem Services (WAVES) is a global partnership, supporting a number of countries as they prepare to implement natural capital accounting based on the SEEA methodology.
- WAVES intends to promote sustainable development by integrating natural capital in development planning and national economic accounts.



NATURAL RESOURCE VALUATION



Natural Resource Accounting Technical Assistance Program

- Turkey signed on to the Communique on Natural Capital Accounting as Supporter of NCA Initiative.
- Since the beginning of NCA component September 2014, it was observed that good progress was achieved.
- In addition, World Bank with the WAVES regional workshop held on 9-11 March 2015 in İstanbul is working to ensure international accounting expertise and valuation on water.
- Water sector for the first phase of the study will include analysis of the status of institutional arrangements and data availability in the water sector at the national and local levels. It is also aimed at the first phase to help World Bank and related institutions to understand the current situation for the better development of the domains and issues of institution and data in Turkey.
- A draft report will be prepared for opinion in April 2015 and it will be finalized in June 2015



NATURAL RESOURCE VALUATION



Notes from Natural Capital Accounting for Sustainable Growth in Turkey: A Diagnostic Note

- Turkey has achieved rapid **economic growth** for more than a decade. Turkey's impressive growth has not been without cost to natural resources. Economic growth continues to put increasing **pressures on the environment and natural resources** across the country.
- Turkey's natural resources have been strained. Turkey is already considered 'water-stressed,' and faces considerable land and forest degradation.
- **Environmental protection** and the **sustainable management of natural resources** are increasingly important long-term challenges for Turkey.
- The need for resource related policy analysis and decision making from government agencies responsible for the planning of development, natural resource management, and environmental protection, are a strong motive for the creation and application of the Natural Capital Accounting tool.
- Natural Capital Accounting can be an important tool for analyses and decision-making around sustainable development and green-growth policies.



NATURAL RESOURCE VALUATION



Natural Resource Accounting Technical Assistance Program

- With this works conducted in cooperation with General Directorate of Water Management, Ministry of Development, Turkey Statistical Institute and the World Bank, a natural resources valuation methodology will be developed within the context of Natural Resource Accounting.
- In addition, this methodology will make significant contributions to the process of internalizing the external environmental and resource costs which is an important step in Natural Resource Valuation.

THANKS...

