



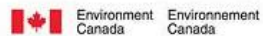
## IMPLEMENTATION OF THE CYPRUS RIVER BASIN MANAGEMENT PLAN

### Saving Water and Securing Adequate Quantities for the Present and the Future

Principal sponsors



Institutional sponsor



Sophocles Christodoulides  
Manager  
Water Board of Larnaka

Organisers





## Cyprus

- Lies at the northeastern end of the Eastern Mediterranean Sea
- 3rd largest island of the Mediterranean
- Area 9250 Km<sup>2</sup>
- Population 0,8 million
- EU Member since 2004





## Water Management Plan

Competent Authority: Ministry of Agriculture, Natural Resources and Environment  
Water Development Department (WDD)

River Basin District: The whole island  
(Note: In accordance with the Act of accession of the Republic of Cyprus to the EU, the implementation of the European acquis is suspended in the areas where the Government does not exercise effective control)

Our Vision: To secure water of sufficient quantity and good quality, for the present and the future, pinpointing all the serious problems regarding the water resources and suggesting feasible as well as socially just measures for their mitigation





## Hydrological Regions of Cyprus RBD

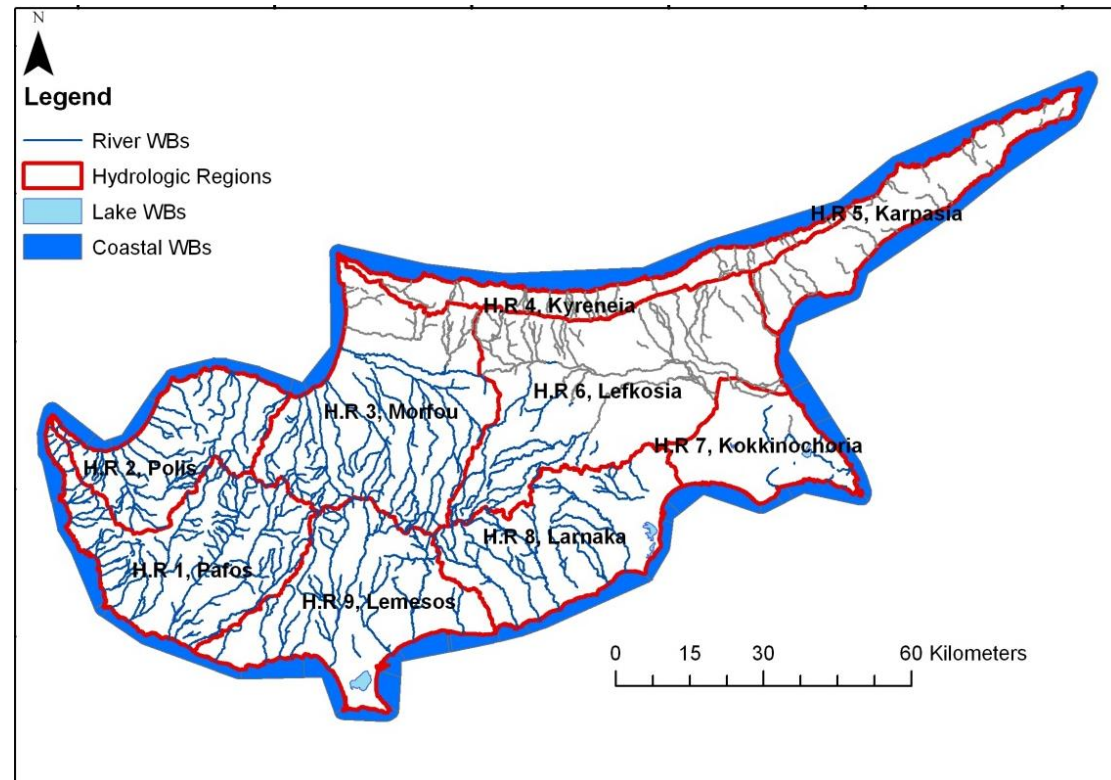
9 Hydrological regions

70 Principal basins

387 Sub-basins

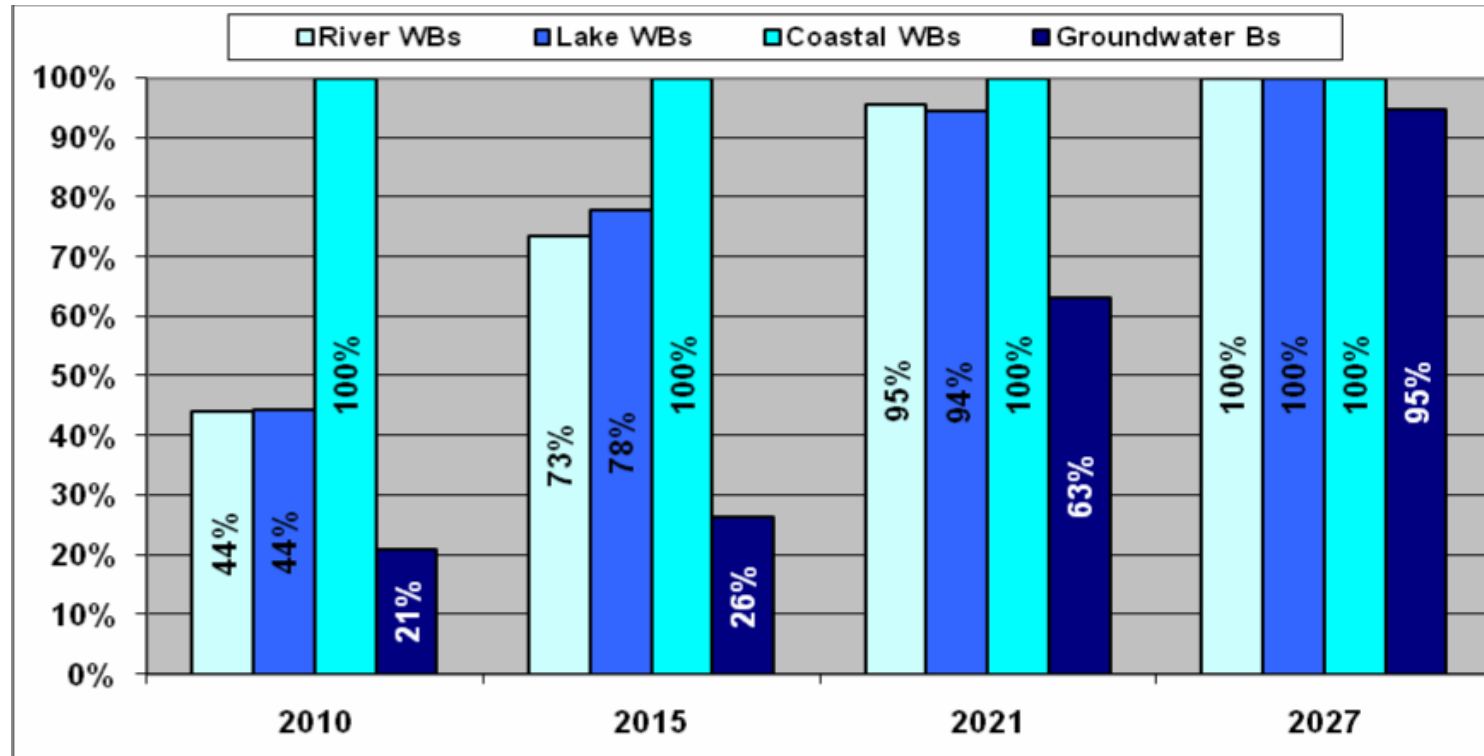
47 Principal basins under  
Government control

772 Km length of coastline



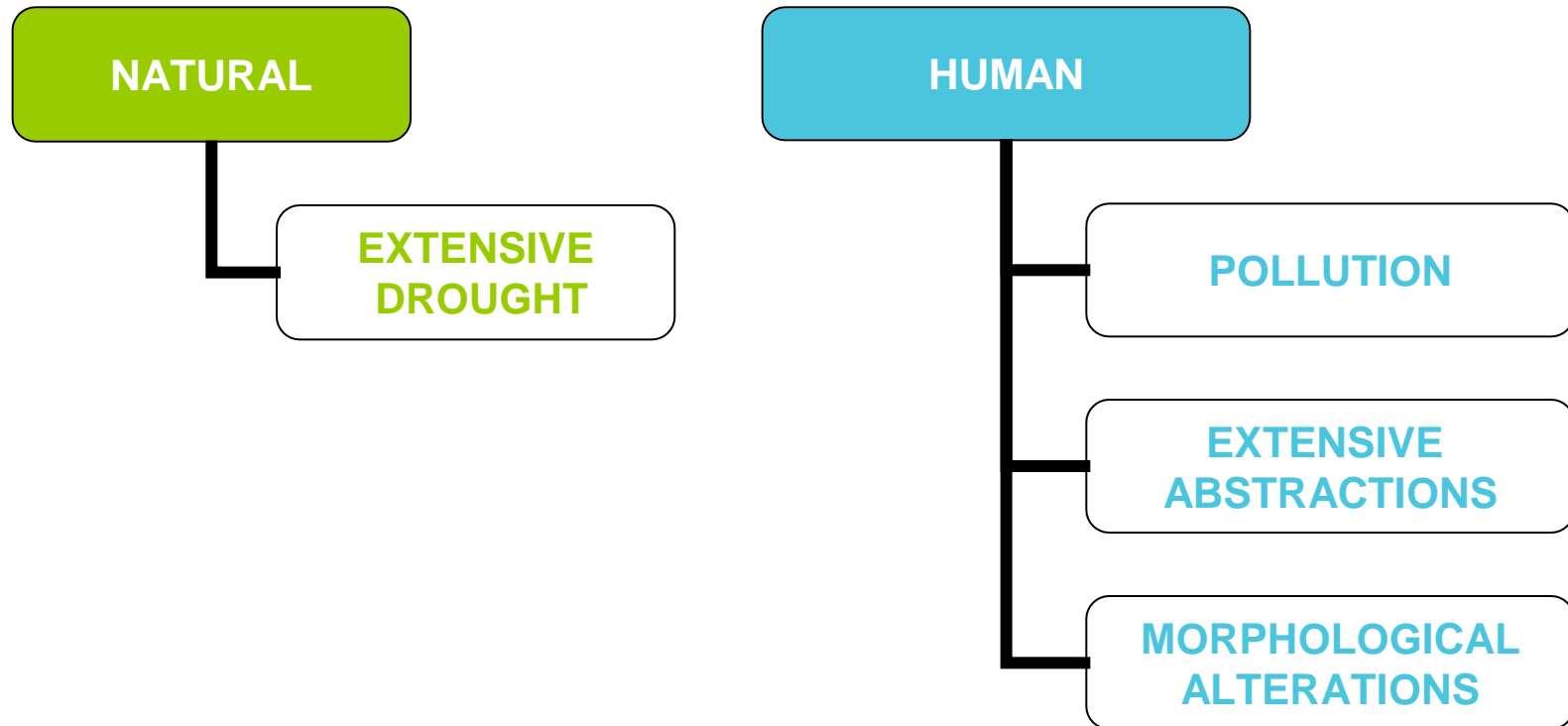


## Status of the Waters of Cyprus RBD



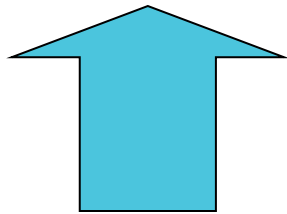


## Pressures Applied on the Waters of Cyprus RBD

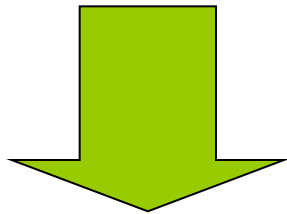




## Two Priorities - Not always Compatible



**MEET DEMAND**



**SECURE GOOD STATUS**

Water Management Policy Must Compromise these





## Hydrological Characteristics of Cyprus RBD

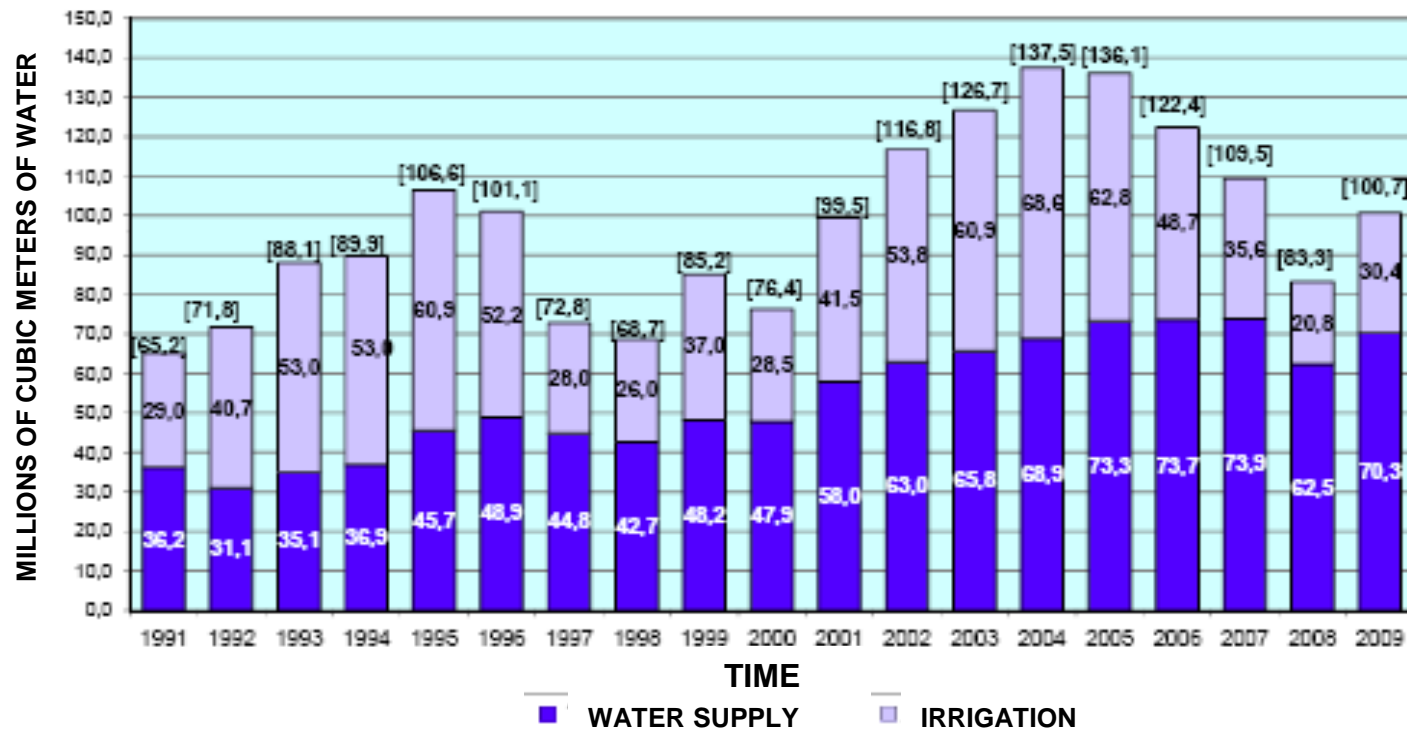
- Complete dependence on rainfall
- 80-85% of rainfall returns to the atmosphere (95% in arid years)
- Surface run-off 250-300 million m<sup>3</sup> per annum
- Growth of exploitation of ground aquifers
- Subsequent construction of dam reservoirs
  - Storage capacity by 1960      6 million m<sup>3</sup>
  - 1990    300 million m<sup>3</sup>
  - today 330 million m<sup>3</sup>
- Recent supplementation by desalination







## Water Supply (1991-2009)





## Major Elements of the Cyprus Water Policy

To deal with conditions of -

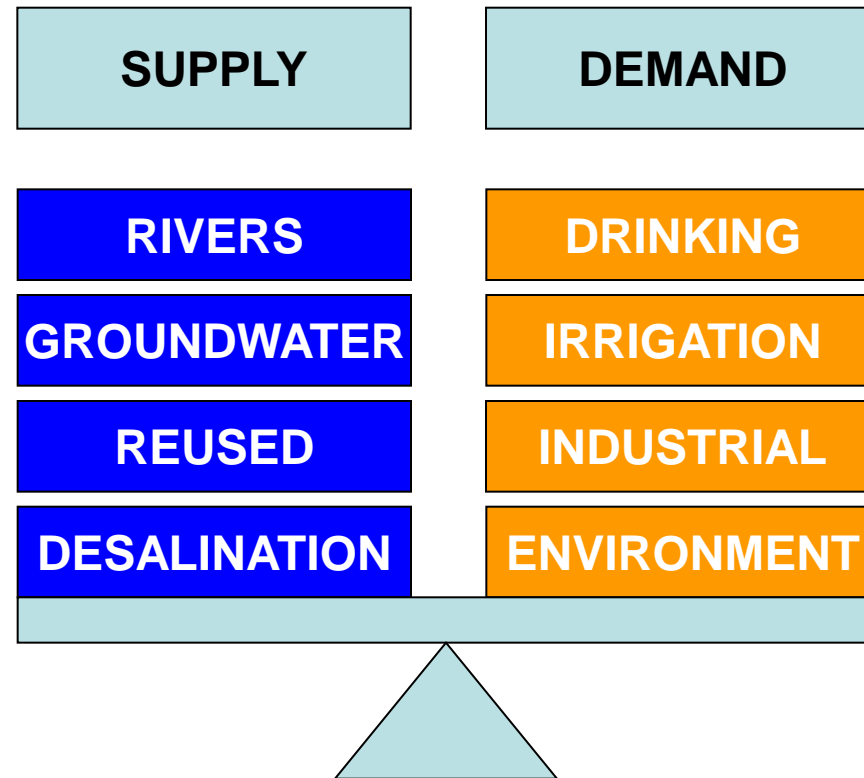
- Increased water demand
- Great fluctuations of the amount of rainfall
- Depletion of many groundwater resources
- Recurring instances of drought, lasting more than one year

In addition, to contribute to sustainability ensuring the protection of the ecosystems dependent on rivers and lakes





## Target of Water Policy Balance Supply with Demand





## Major Elements of a Successful Water Policy

### SUSTAINABILITY AND PROTECTION OF ECOSYSTEMS

- Management of water demand-Reduction of losses
- Protection of resources from non-recoverable abstractions
- Maintain minimum water quantity in dam reservoirs
- Increase in recycled water use
- Implement a desalination-dam system to save energy and reduce spills
- Ensure minimum river flow downstream of dams

### TEMPORAL STABILITY AND RELIABILITY OF WATER SUPPLY

- Determine specific relationship between stored volumes in dams and abstractions, to avoid major fluctuations
- Combined use of desalination and dam reservoirs to secure complete coverage of drinking water demand and provide certain reliability for quantities available for irrigation
- Increase in recycled water use





## Major Elements of a Successful Water Policy

### RESILIENCE TO PROLONGED DROUGHT

- Timely diagnosis of drought period and monitoring of its evolution, intensity and effects
- Secure satisfaction of drinking water needs
- Management of reserves to secure satisfaction of irrigation requirements for permanent plantations
- Increase in recycled water use will contribute
- Recovery of groundwater resources will provide strategic reserves

### ADAPTABILITY TO CLIMATE CHANGE

- “Open” parameterized management system
- Periodical re-evaluation of these parameters is necessary





## Summary of Actions and Measures

### 1. Measures for Efficient and Sustainable Water Use

- Restructuring of cultivations
- Reduction of leakages from water supply networks
- Metering of all consumption
- Promoting technologies for efficient water use in industry

### 2. Implement the Principle of Cost Recovery

- Develop a tariff policy
- Set mechanism for collection and utilization of environmental cost and natural water resource cost
- Place water meters in all boreholes
- Record water quantities and cost data for areas beyond Government works





## Summary of Actions and Measures

### 3. Protection of Waters Intended for Human Consumption

- Extend protection zones to the whole of the groundwater abstraction points for potable water supply purposes
- Set up protection zones in all water reservoirs
- Revise the Registry of Protected Areas

### 4. Structured Management of Surface and Groundwater Abstraction

- Implement the Water Policy
- Specify a procedure for water abstraction permits





## Summary of Actions and Measures

### 5. Demand Management Measures

- Public information and awareness campaigns
- Actions for crop restructuring
- Implement a system for measuring, recording and reporting losses

### 6. Measures for Effectiveness and Reuse

- Provide subsidizations for borehole drilling, connection of boreholes with toilets and installation of grey water recycling systems
- Set up a green fee for the possession of a swimming pool
- Prepare a guideline document for the creation of gardens of low water demand







## What's Next

- Duration of consultation until **November 2010**
- Approval of the actual RBMP by the Cabinet of Ministers and submission to the European Union by **Spring 2011**
- Implementation of all the measures by the **end of 2012**





World Water  
Congress & Exhibition

# Montréal



19–24 September 2010



THANK YOU  
FOR YOUR ATTENTION

