

INTELLIGENT WATER MANAGEMENT

Working in Partnership

The **Water Development Department**, Ministry of Agriculture, Rural Development and Environment, is responsible for the protection and the rational and sustainable development and management of the country's water resources.



CHALLENGES

- High cost of energy due to pump use for water transport
- High cost of water losses
- Salt water intrusion in water bodies due to over-pumping for agriculture
- Predicting future needs for infrastructure investment
- High cost of desalination
- Continuous water quality monitoring

RESEARCH

- Real-time leakage and quality monitoring
- Optimal pump control for reducing energy costs
- Decision support optimizing water production management
- Develop methodologies for future needs analysis
- Economic benefits of time-of-use energy schemes

IMPACT

- Reduce water usage
- Reduce energy usage
- Reduce water losses
- Reduce response time in the case of an event
- Increase water security
- Reduce operating costs

INNOVATION

- Design and develop decision support tools for:
- Monitoring and reporting of abnormal energy and water usage
 - Estimating water needs and optimize production cost
 - Optimizing water transport with respect to energy needs



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