

A photograph of a hillside village with yellow and white buildings under a cloudy sky. The buildings are built on a slope, and some have murals on their walls. The sky is overcast and grey.

Integrating the Climate Change Dimension into Water Resources Management in the Mediterranean

Presentation of the draft Theme Paper
prepared in view of the Ministerial Conference on Water
by Morocco, Spain and Greece
with the contribution of the MED EUWI Secretariat

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Climate change impacts in the Mediterranean

- Mitigation alone is not sufficient, adaptation measures needed
- CC affects:
 - Intensity and frequency of floods & droughts
 - Water availability & demand
 - Water quality
- CC has an impact on socio-economic and environmental goods
- Adaptation needed for storing, managing, distributing and delivering water resources.



Climate change impacts in the Mediterranean

The Mediterranean is one of the most affected regions by climate change with immediately visible impacts:

- North Africa
- Middle East
- Southeastern Europe
- Mediterranean countries of the EU



Current processes and recent developments relating to adaptation and water

MULTILATERAL PROCESSES

- **Multilateral Environmental Agreements (MEAs)**
 - UN Framework Convention on Climate Change (UNFCCC)
 - Kyoto Protocol
 - UN Convention to Combat Desertification (UNCCD)
 - Barcelona Convention (study on “Energy and CC in the Mediterranean)
 - UN ECE Water Convention (Task Force on Water and Climate Change)
- **Funds under MEA’s (managed by the GEF)**
- **Recent developments**



Current processes and recent developments relating to adaptation and water (cont'd)

REGIONAL INITIATIVES

- **European Union:**

- Policy instruments (WFD, etc.)
- EU Water Initiative, MED EUWI
- MEDA Water Programme
- Common Foreign Policy and Security Policy

- **North Africa and Middle East:**

- Coping with Drought and CC
- CBA Programme
- World Bank MENA Regional Business Strategy to Address CC
- WHYCOS project
- Africa Water Vision for 2025
- Etc.



Main gaps/issues with respect to climate change and water resources management

- **Economic development**, food security and poverty alleviation – that is to say livelihoods - negatively impacted by climate change and increased water scarcity
- **Lack of awareness** among public but also policy-makers => lack of integration into policy-making + issues with reg. to governance of water resources
- Need for further **knowledge development and technology transfer** with regard to hydro-meteorological data collection, modelling and climate projections



Main gaps/issues with respect to climate change and water resources management (cont'd)

- **Energy-climate-water nexus:** water footprint of energy (i.e. cooling of power plants) and energy footprint of water (i.e. energy consumption of desalination systems)
- **Gender issues** – women play an important role in the day-to-day management of water resources => negative consequences of lack of education on adaptation to CC
- **Ecosystems** – heavily impacted by CC, but on the other hand important buffer zones and providing significant services (biodiversity, natural resources, water purification, etc.)



Exploring the way forward

Wide **array of adaptation measures** to be streamlined into water resources management – such as:

- **Policy formulation, strategic planning**, etc. at national (IWRM Plans), regional and in particular river-basin level (RBM Plans)
- **Technical solutions**
 - Water demand management, water efficiency measures (i.e. water metering, leakage reduction, drip irrigation)
 - Water supply side measures (incl. non-conventional water resources, water transfers)
 - Climate risk management (i.e. early warning systems, drought management plans, flood protection mechanisms, climate proofing of water infrastructures)
- **Climate information and research** – needs to be enhanced to allow for downscaling at the lowest possible level, for sound water planning and risk reduction activities



Exploring the way forward (cont'd)

- **Economic instruments:** evaluation of the cost of adaptation compared to non-action, incentives to reduce water demand (i.e. pricing policies) and encourage diversification of water-intensive or climate change threatened activities
- **Cross-cutting issues: awareness raising** among users, especially those more exposed, **education, capacity building** in the water sector, **stakeholder involvement, gender mainstreaming**, etc.
- **Sector integration**
 - agriculture
 - energy
 - tourism and industry
 - ecosystems/nature
- **International cooperation**
 - North-South: technology transfer in the hydrometeor. sector
 - Regional: transboundary water management



Main conclusions

Climate change is inevitable and in many cases **already occurring** with important impacts on the region's water resources.

Mitigation will not be enough, **adaptation will be necessary.**

The **future Water Strategy** must take this into account.

Furthermore:

- As a **multi-faceted challenge**, climate change impacts all the aspects of water management
- IWRM is the most **holistic approach** to water management
- IWRM is the best basis for **adaptation strategies**, that should therefore be mainstreamed into IWRM planning



THANK YOU
FOR YOUR ATTENTION!



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