



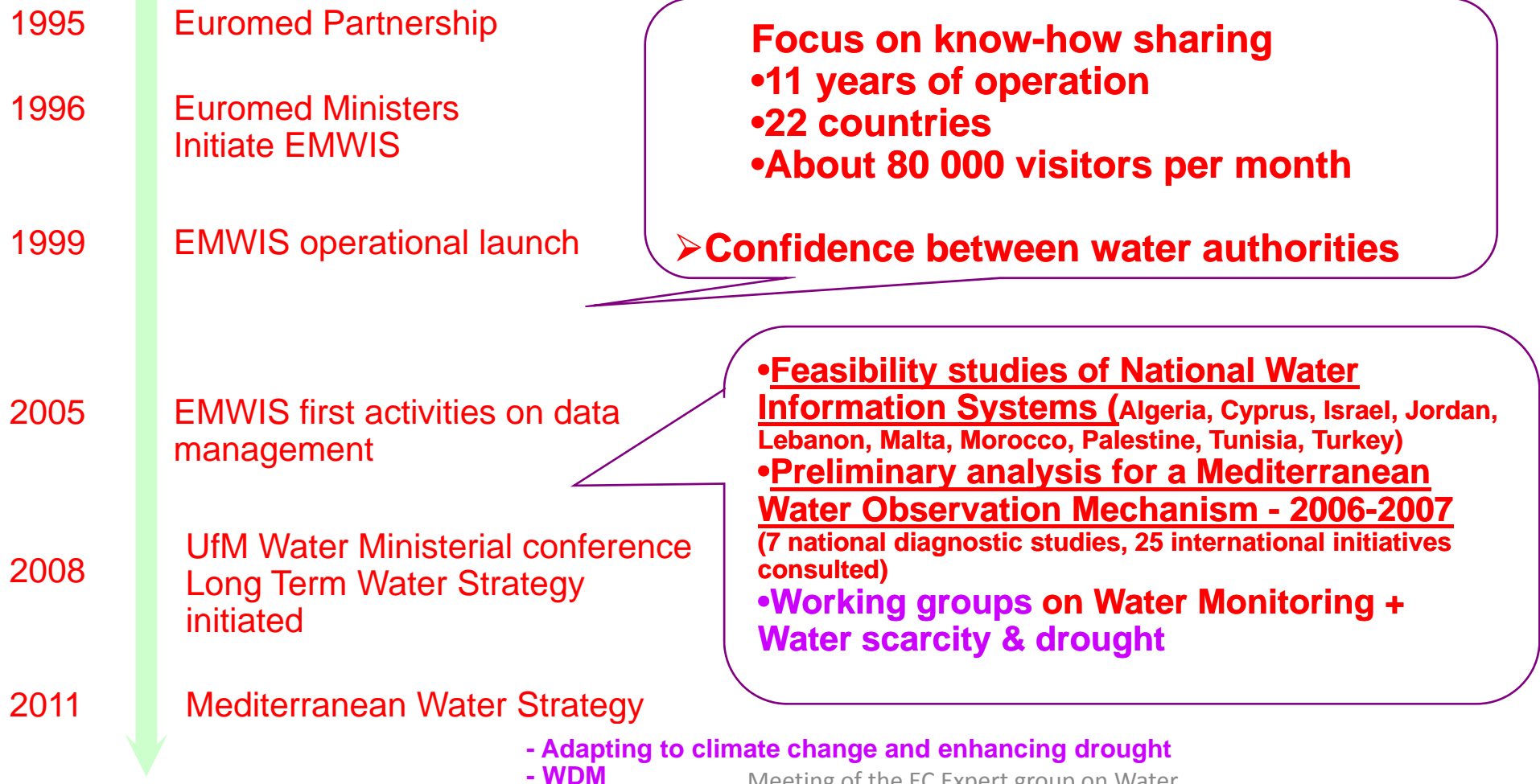
State of the Med Joint Process and the Med WSD group activities

Dr. Jauad El Kharraz

Euro-Mediterranean Information System on know-how in the Water sector

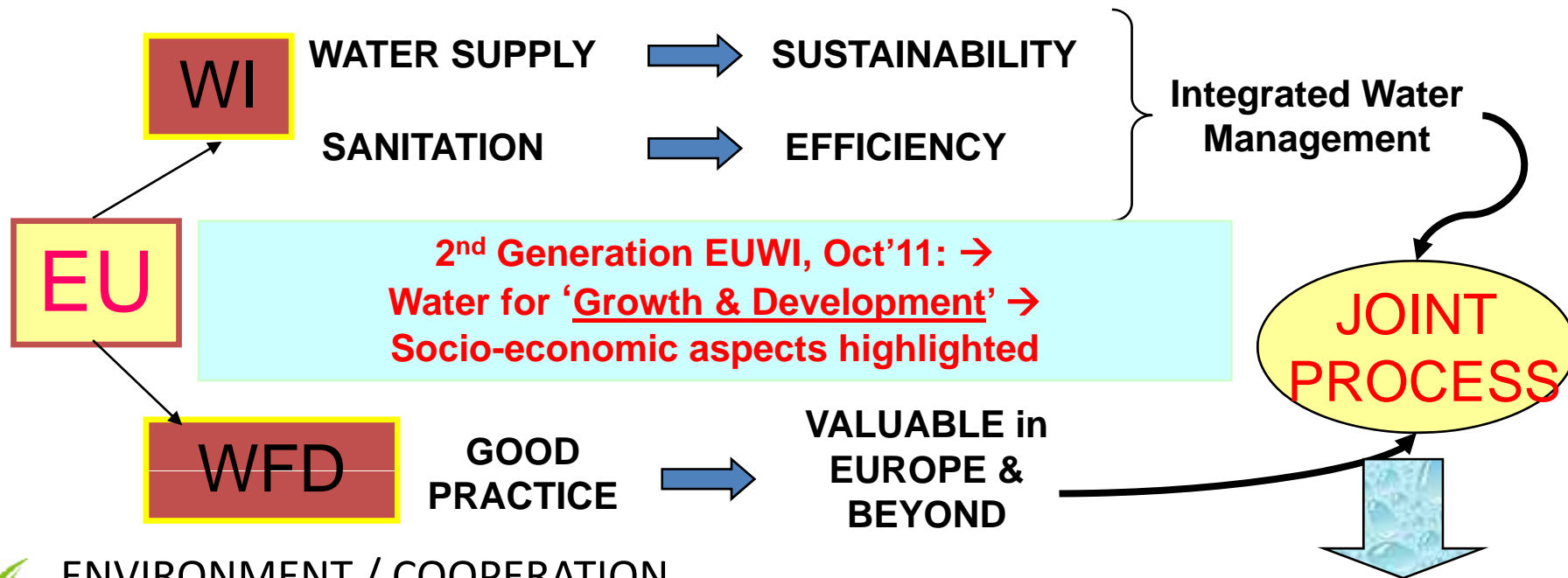


Context of EMWIS activities



WHY a WFD/EUWI JOINT PROCESS? (JP)

FACILITATE SOUND WATER RESOURCES MANAGEMENT POLICIES IN THE MED, BASED ON WFD PRINCIPLES



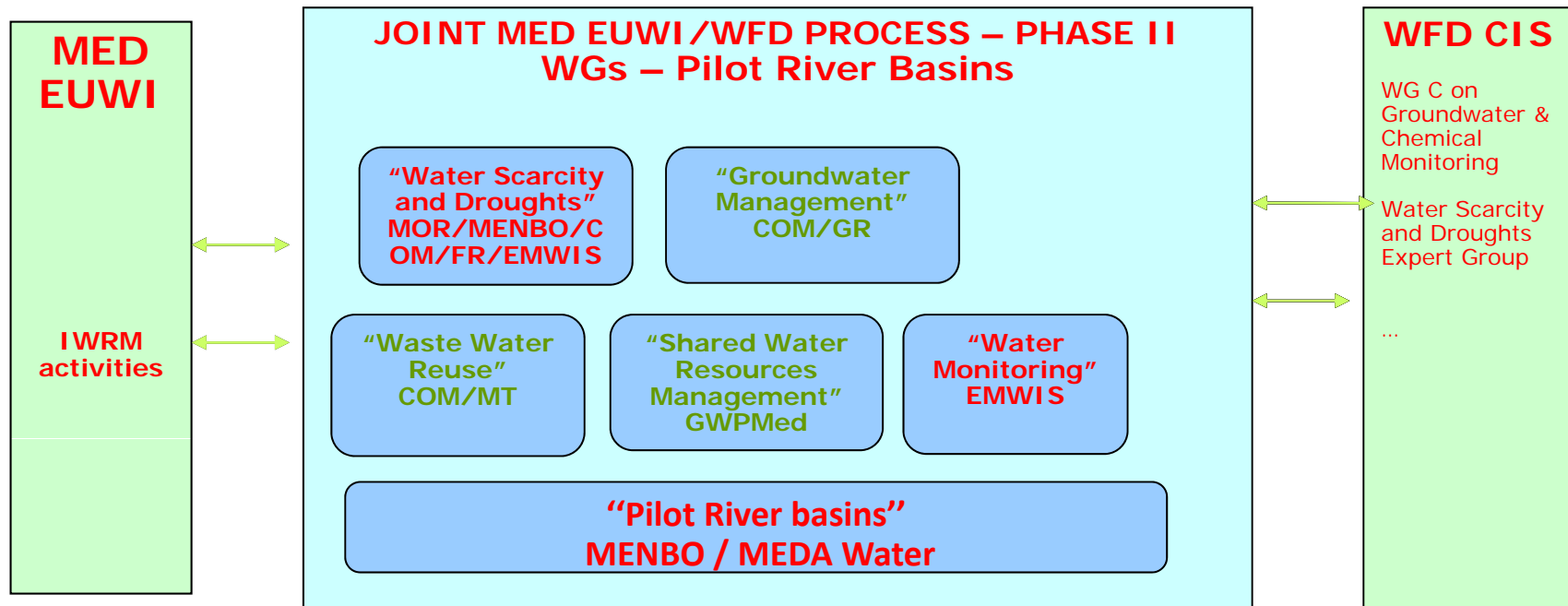
ENVIRONMENT / COOPERATION

- ✓ Sustainable Water services and uses
- ✓ Ensure high level of protection of water resources
- ✓ share common methods, practices

✓ **Consistent & coherent, common, similar but NOT identical standards / legislative frameworks and methodologies**



2004-2010



See Med JP achievements (2004-2010) at:

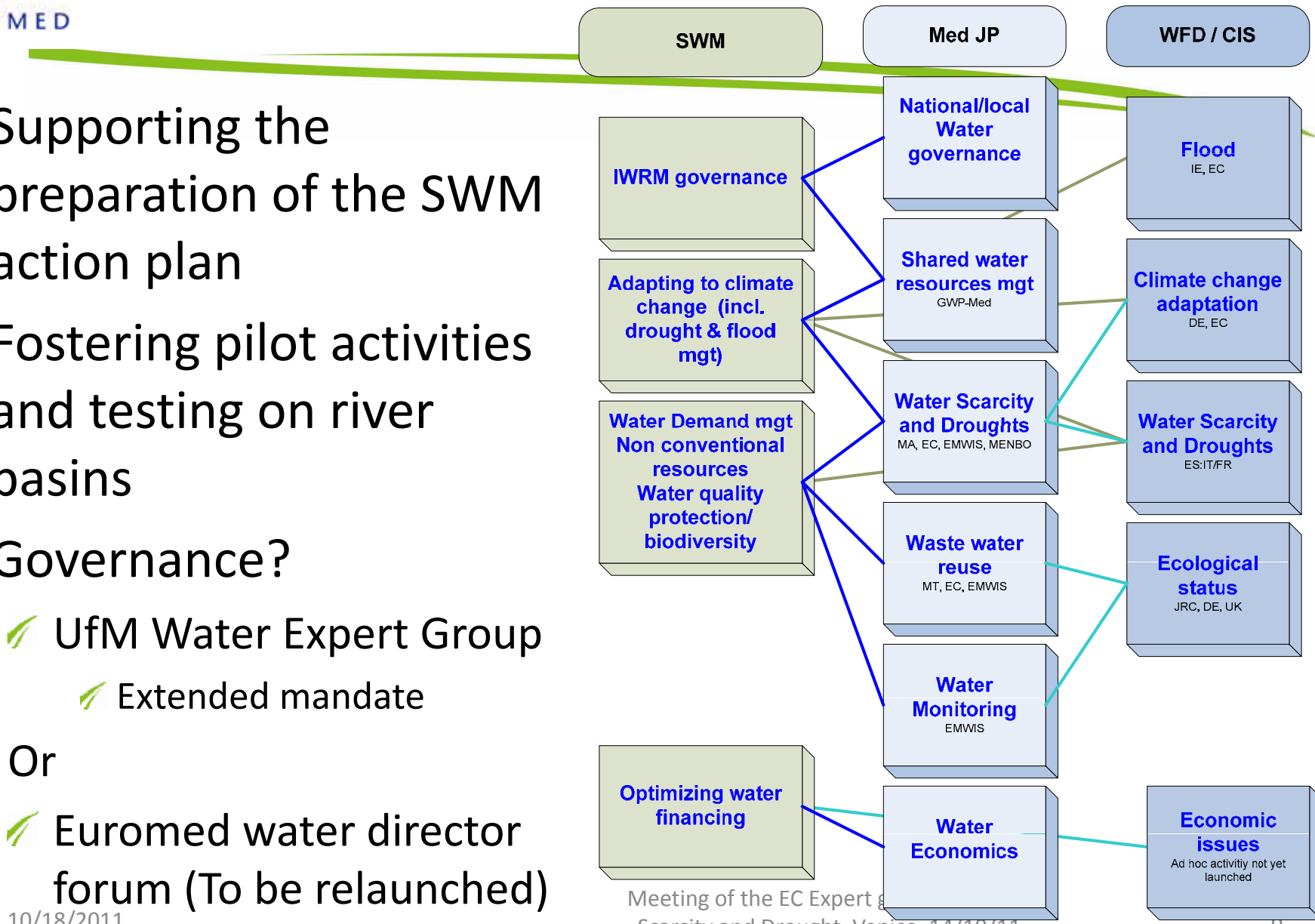
<http://www.semide.net/initiatives/medeuwi/JP>

Joint Process WGs objectives

- ✓ Facilitating the integration of the WFD principles in partner countries' water related policies.
- ✓ Producing recommendations for preparing national and local activities for the implementation of sound water policies.
- ✓ Joint Process Phase 1 (2004-2006) – JP1
WS&D WG set up in Sept'2004 in Brindisi
Draft report (2006)
- ✓ Joint Process phase 2 (2007-2010) – JP2
WS&D → - Final Report (June'08)
- Synthesis note on water quality monitoring (Dec'2010)
- ✓ Joint Process new phase?

Proposal for a new phase (JP3)

- Supporting the preparation of the SWM action plan
- Fostering pilot activities and testing on river basins
- Governance?
 - UfM Water Expert Group
 - Extended mandate
- Or
- Euromed water director forum (To be relaunched)



Meeting of the EC Expert Group on
Water Scarcity and Drought, Venice, 14/10/11

UfM Mediterranean Water strategy

Recommandations for action

SWM: 4 priorities

1. Enhance the knowledge-base regarding climate change impacts and the vulnerability to them: Based on reliable data and information on the likely effects of the phenomenon and the costs and benefits of different adaptation options;
2. Reinforce appropriate operational plans, projects and robust and adaptable institutions to manage effectively future challenges and risks at local, national and regional level;
3. Integrate water adaptation considerations into all related sectoral plans from preliminary planning stages;
4. Implement incentives using market-based instruments & related financial services;
5. Promote approaches for climate proofing of water infrastructure investments and for taking into account climate change impacts;
6. Fully integrate water resources adaptation considerations into bilateral and regional financial assistance programmes and activities; and
7. Increase regional and transboundary cooperation and assistance to cope with emergency situations arising from droughts.



Progress achieved by the Med WG



ACTIVITIES	WATER SCARCITY & DROUGHT
Drafting of Recommendations / Reports	<ul style="list-style-type: none"><input type="checkbox"/> Phase I final report: June'08<input type="checkbox"/> A test data collection in 2 pilot river basins (Litani in Lebanon & Sebou in Morocco) using EEA reporting tool on water quantity.<input type="checkbox"/> A survey on data availability (based on EEA approach for voluntary reporting on water quantity).<input type="checkbox"/> A synthesis note on key data for WS&D in the Mediterranean was prepared.
Development of Electronic Forum / Improve Access on Information	<p>www.emwis.net/topics/WaterScarcity</p>
Meetings / Exchange of Knowledge	<p>Seville, 2007-06-19, during the Int. Drought Forum. Madrid, 2010-02-17 during the Int. WS&D Conference Sophia Antipolis, 2010-09-06/07 Presentation & validation with EMWIS NFP & SC (13countries), Florence, Dec'2010</p>

Example: Impacts of the 1999 drought in Jordan & the Palestinian territories

Winter 1998/1999- rainfall only 30% of annual average

Impacts:

- ✓ **Economic:** Severe agricultural water use restrictions, collapse of rain-fed farming in the West Bank, purchase of water on the black market
- ✓ **Social:** water rationing in Jordan and the Palestinian Territories, with resulting health implications
- ✓ **Environmental:** Degradation of stream water quality, sharp water depletion and increased salinity of groundwater systems, increased salinity of soils
- ✓ **Other:** political ramifications

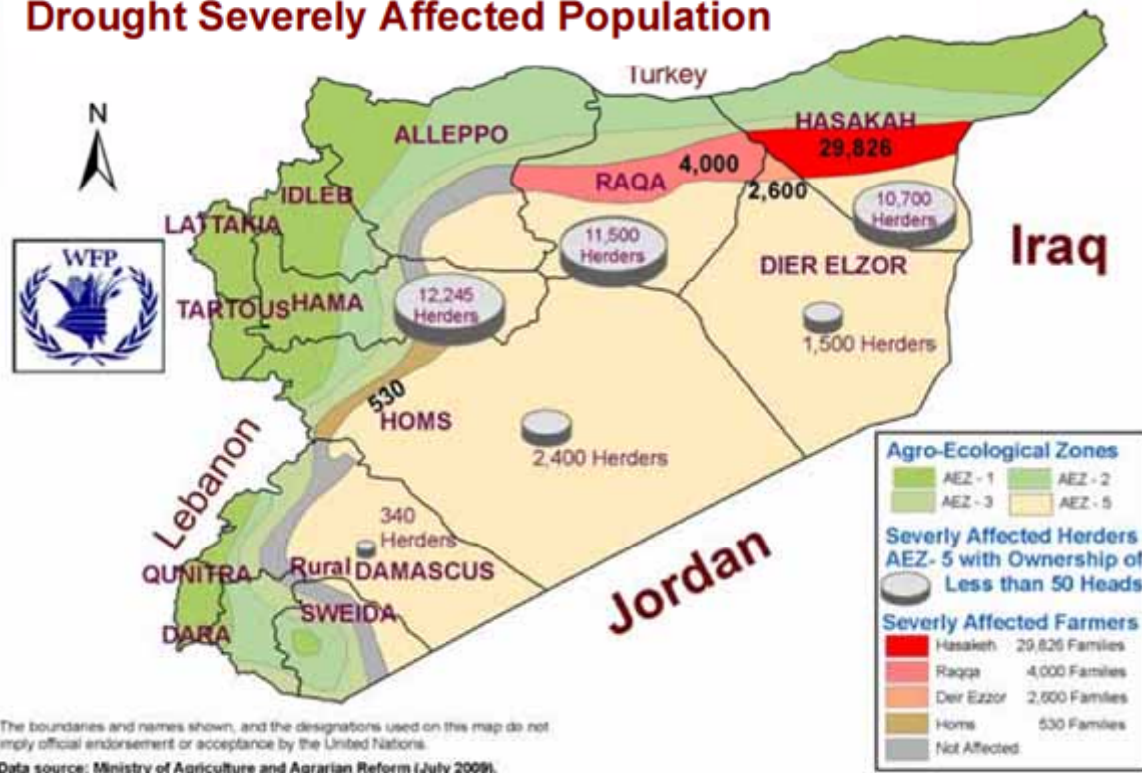
- 40% of years experienced drought in the last 12, with 2 acute droughts in 87/89 and 93/95

Impacts:

- Economic:** Restrictions of water use in agriculture, and fall in agricultural production (olives and cereals)
- Social:** Decrease in farmers' revenue
- Environmental:** Sharp increase in salinity of surface water and soils, drying up of lakes

Example: Syria

Drought Severely Affected Population



Population affected by drought in Syria

- Term “affected population” needs discussion – could be population whose normal water supply is affected, or all the population experiencing small effects, but where water supply restrictions and special measures are adopted



EUROMED



Main measures applied by South Med countries

Preparation to WS&D situations: supply side management measures

- Water transfers
- Desalination & waste water reuse

- ✓ New storage facilities
- ✓ Use of marginal resources (groundwater)
- ✓ Aquifer recharge
- ✓ Improved efficiency of water distribution networks
- ✓ Relaxing environmental constraints

Demand side management measures

- Reduction of irrigation consumption
- Remote control
- Water recycling in the industry

- ✓ Water metering
- ✓ Mandatory rationing
- ✓ Restriction on municipal use
- ✓ Water markets (tariffs) and full cost recovery
- ✓ Water saving campaigns for voluntary actions
- ✓ Awareness campaign to adapt to minimize drought
- ✓ Increase in the regulation capacity for urban supply

Minimizing Water Scarcity and Drought Impacts

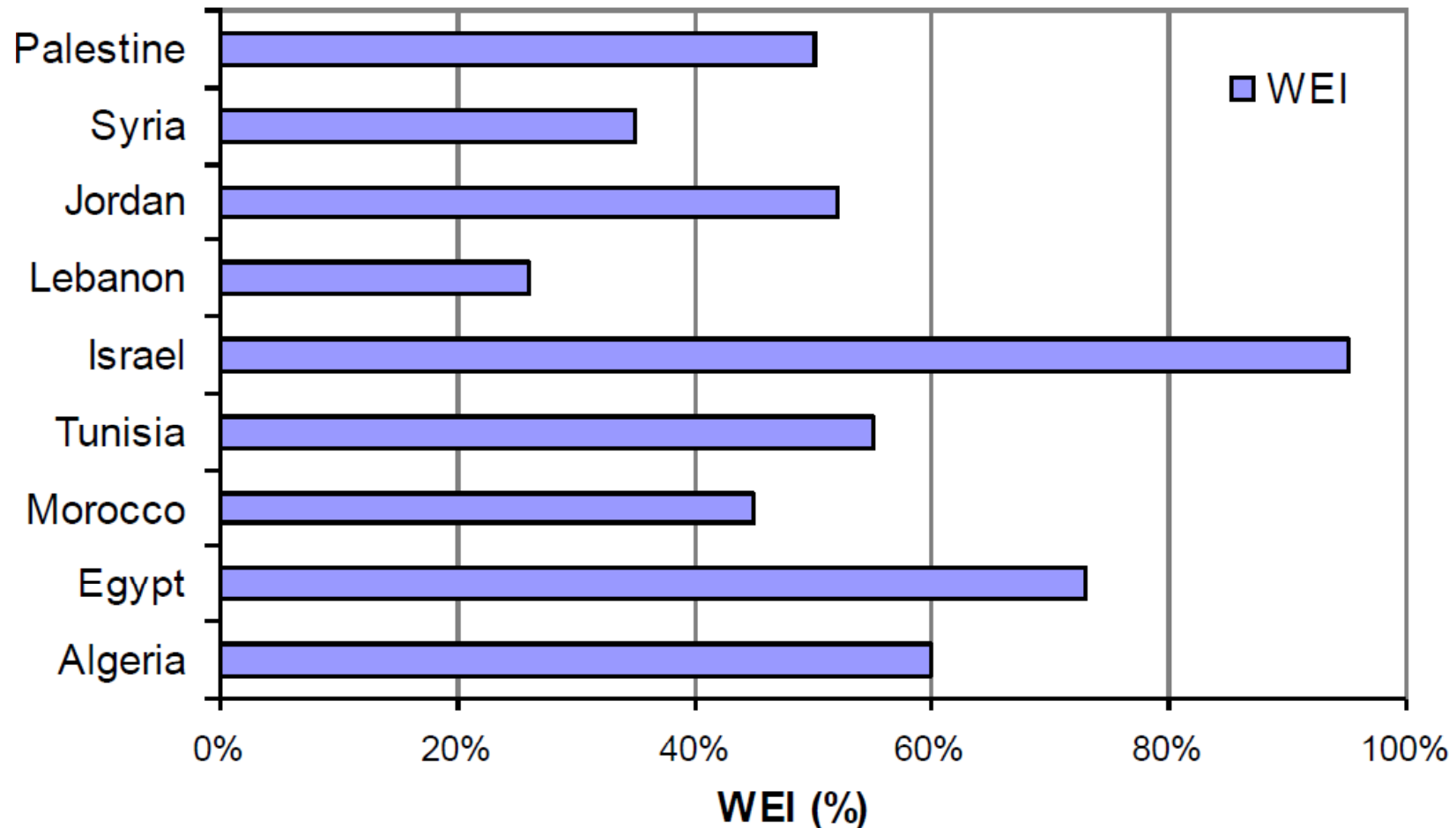
- ✓ Quality based reallocation of resources
- ✓ Drought management plan
- ✓ ...

- ✓ Contingency plan
- ✓ Insurance and economic
- ✓ Public and tax relief
- ✓ Rehabilitation programmes

- ✓ PS: Drought response plan (framework for preparing and responding to minimize losses and to sustain the future of some specific crucial livelihood).
- ✓ TN: National water-saving strategy for irrigation, which includes the creation of user associations, pricing aimed at progressive cost recovery, targeted financial instruments for water-efficient farming equipment, and support to farmer revenues.
- ✓ MA: Improved water management (reduction of leaks, progressive pricing, systematic metering, major public awareness campaign)

Indicators: Water Exploitation Index

Water Expoloitation Index WEI in South Mediterranean Countries



Water Availability

→ Hydrological balance
→ Additional Water Resources

Point data:

Streamflow
Reservoir in/outflow
Groundwater levels

Water Abstraction

per source (SW, GW)

per provider

Water Use (still difficult to get->no systematic collection of such data)

per sector
per provider

large items

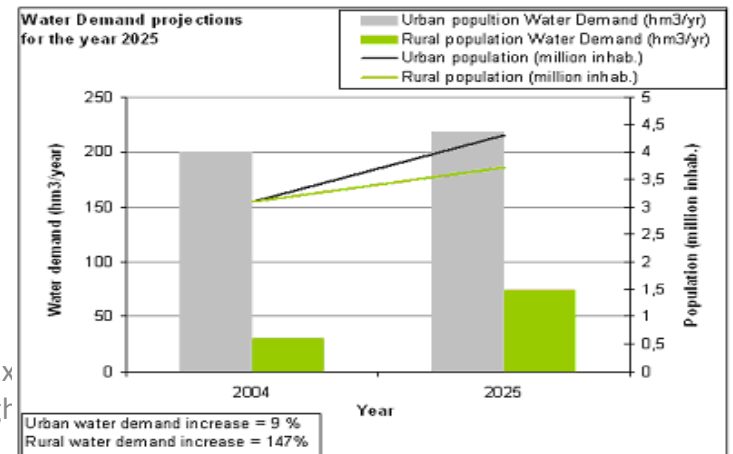
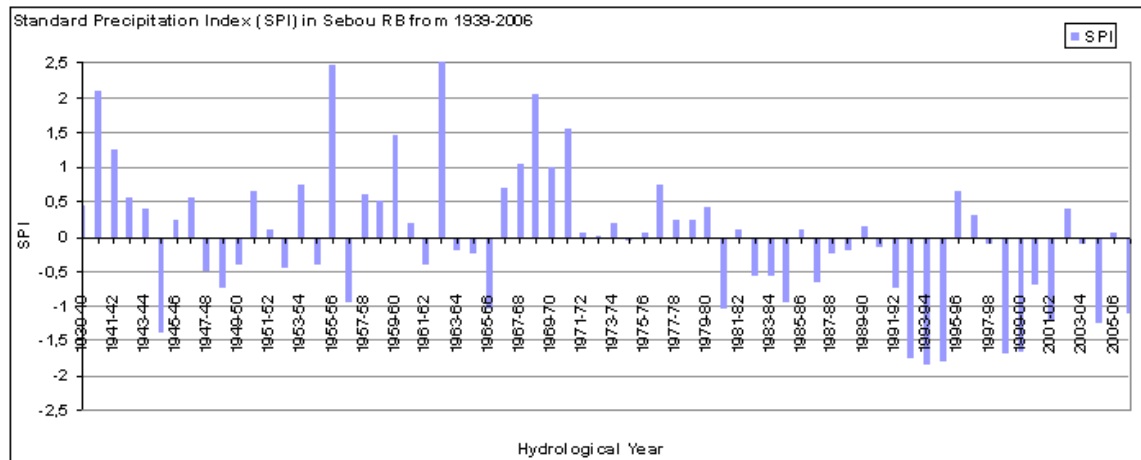
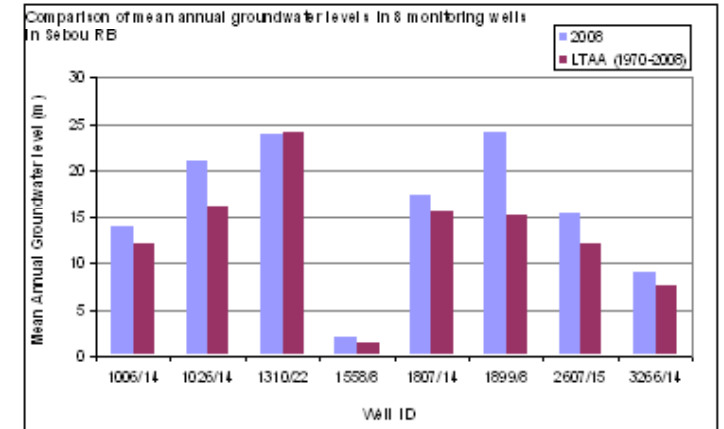
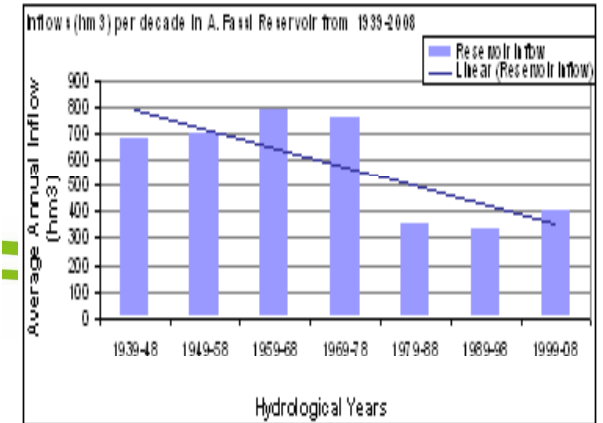
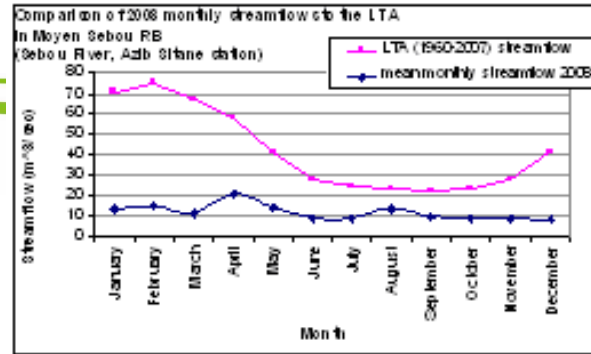
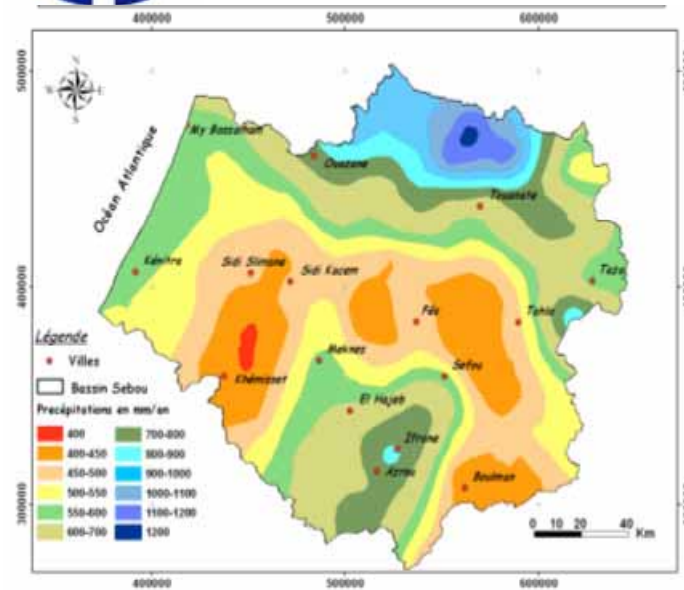
Recycled water

SEBOU RB (Morocco)

Indicator	Hydrological years	Comments
Standard Precipitation Index (SPI)	1939-2006	Calculation of SPI-1 year for the hydrological years 1939-2006
Reservoir Inflow	1939-2008	Comparison of average annual inflow per decade in <u>A.Fassi</u> and <u>Al Wahda</u> reservoirs for the hydrological years 1939-2008
<u>Streamflow</u>	2008	<u>Comparison of 2008 mean monthly discharges (m³/sec) to the long term averages (LTA) of the respective months from 15 representative <u>streamflow stations</u>.</u>
Groundwater levels	2008	Comparison of 2008 mean annual groundwater levels to the long term annual average (<u>LTAA 1970-2008</u>) from 8 monitoring wells
Abstractions from Reservoirs	1999-2008	Comparison of annual inflows and outflows for <u>A.Fassi</u> and <u>Al Wahda</u> reservoirs for the hydrological years 1999-2008
Water Abstraction for Hydropower		Comparison of abstraction for Hydropower from <u>A.Fassi</u> and <u>Al Wahda</u> reservoirs for the hydrological years 1999-2008



SEBOU RB (Morocco)



10/18/2011

Meeting of the EC Ex
Scarcity and Drought

Urban water demand increase = 9 %
Rural water demand increase = 147%

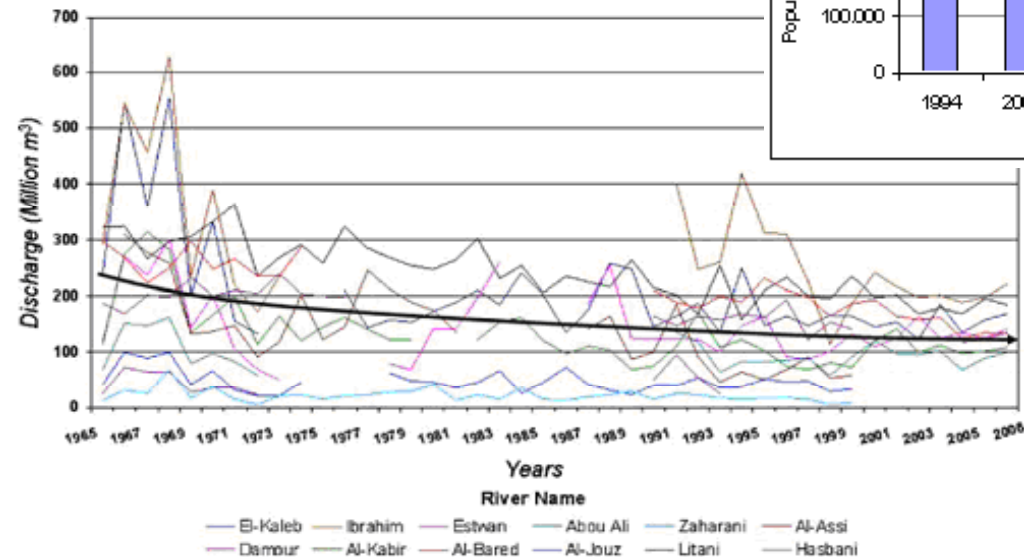
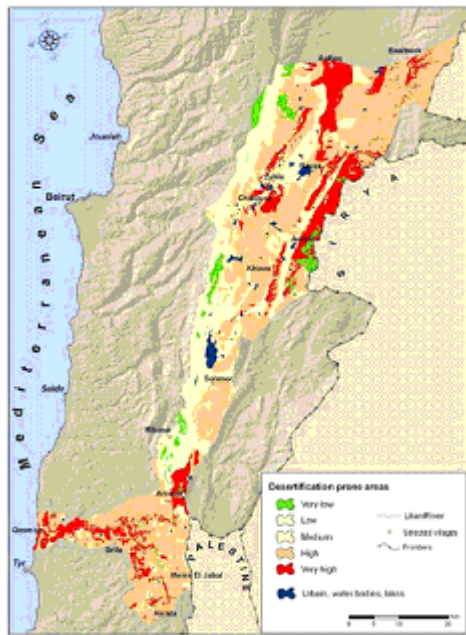
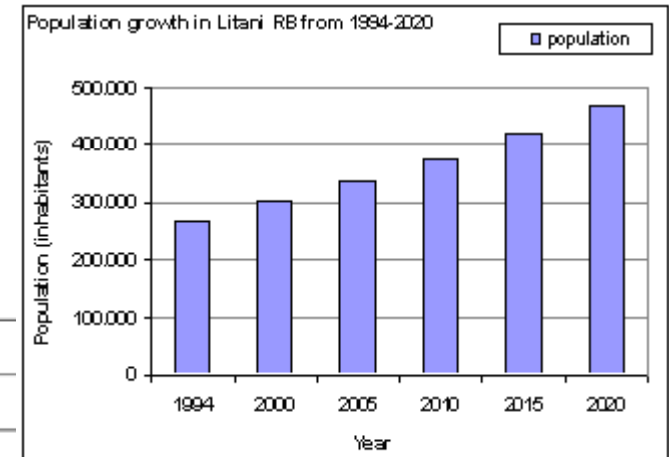
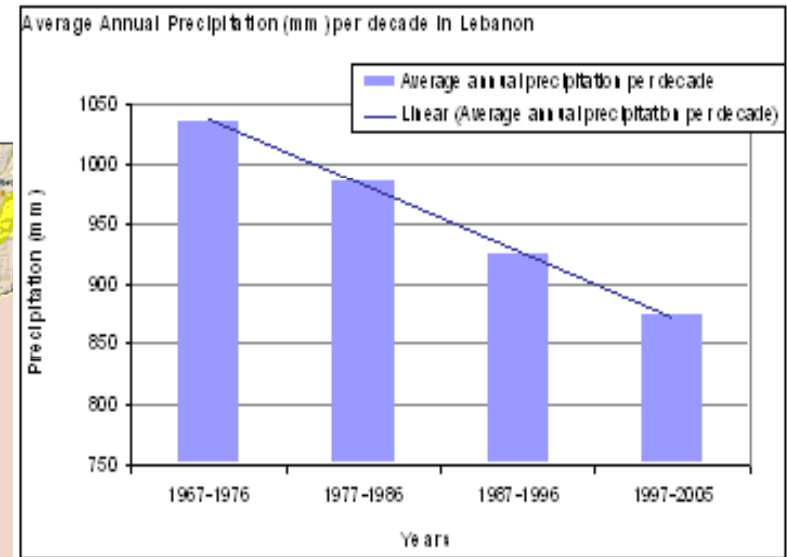
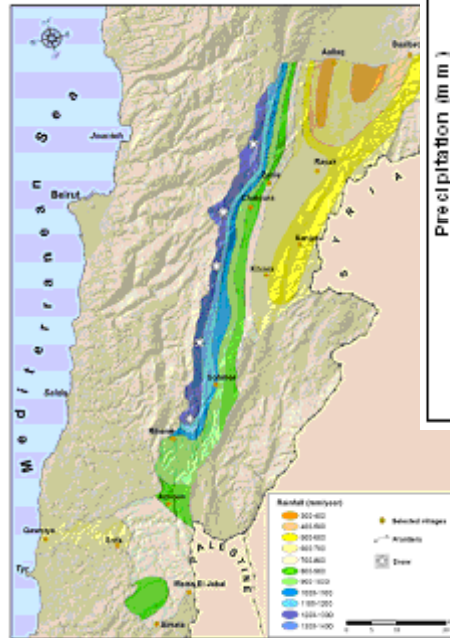
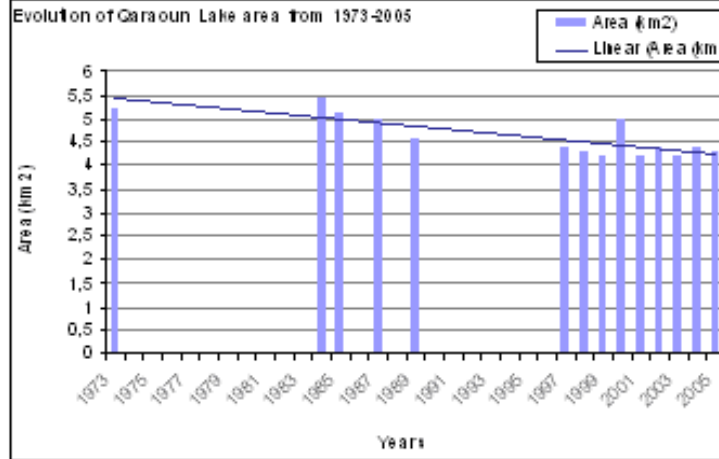
LITANI RB (Lebanon)

Indicator	Hydrological years	Comments
Precipitation	1967-2005	Calculation of average annual precipitation per decade in Lebanon to detect trends Comparison of the monthly long-term average precipitation 1975-2006 (LTA) in the 4 eco-climatic zones of <u>Litani RB</u> to assess the spatiotemporal variability
Stream flow	1965-1999	Comparison of annual discharges (hm ³) from 1965-1999
Abstractions from surface water for irrigation	2007-08	Monthly irrigation water abstraction from surface water from the Upper and Lower <u>Litani subcatchments</u> in order to assess the spatiotemporal variability.
Change in Reservoir area	1973-2005 (incomplete time series)	Evolution of <u>Qaraqun Lake</u> area (km ²) from 1973-2005
Reservoir water balance		
Population	1994-2010 and 2015, 2020 projections	Evaluation of the population growth trends
<u>Desertificated</u> prone areas	Map	Evaluation of the <u>areal</u> extend and intensity of desertification risk



LITANI RB (Lebanon)

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- ✓ Today, most of South & East Mediterranean countries use indicators such as rainfall (compared to long term average), water levels in reservoirs and groundwater, associated with thresholds to assess the level of drought and the application of mitigation measures.
- ✓ Data gaps: Data not collected continuously but on project basis
- ✓ Validation & QA are necessary
- ✓ Indicators are recognised as powerful for planning, management and easy to communicate tool yet. For holistic & rounded assessments of WS&D a combination of indicators is needed. The right definition of indicators & data collection processes should be based on local DMP (taking into account local environment & stakeholders needs: different types of indicators are used for: politicians, managers, farmers, etc.)
- ✓ Socio-economic indicators to identify drivers & pressures are not sufficiently collected & used.
- ✓ It is still too early to reach an agreement on common indicators between all the countries, as further exploration is necessary through pilot exercises.
- ✓ As a follow up of the WG results, a pilot project has been proposed under SWIM programme focusing on preparing DMPs, setting up indicators linked to DSS, and testing adapted programme of measures,; experience sharing.



Thank you for your attention



National portals



« who does what »

Common taxonomic (multilingual water thesaurus)

www.emwis.net



Thematic forums/folders

Ground water, water scarcity
Water glossaries, satellite



Clearing house for EU programs and instruments

Regional water projects

Monthly eNews Flash
Arabic, English and French



Meeting of the EC Expert group on Water Scarcity and Drought, Venice, 14/10

