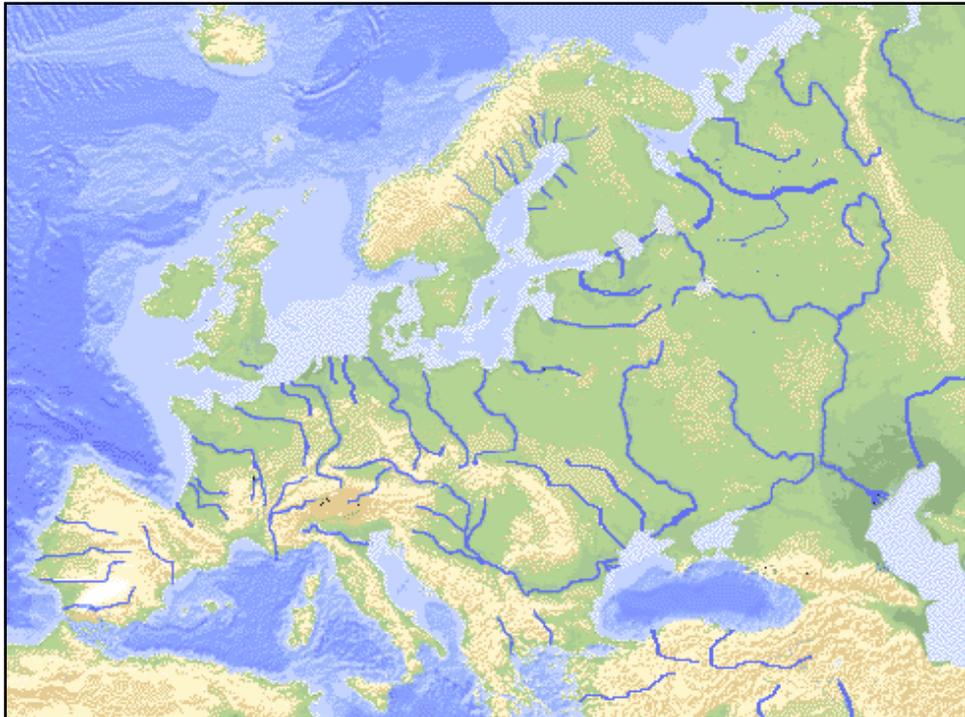


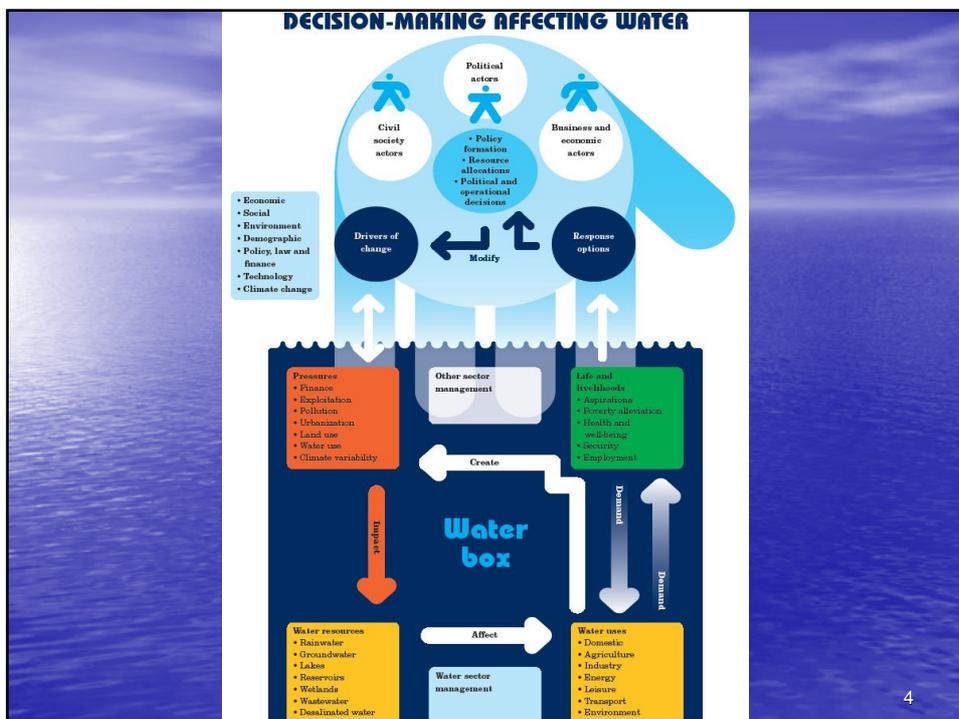
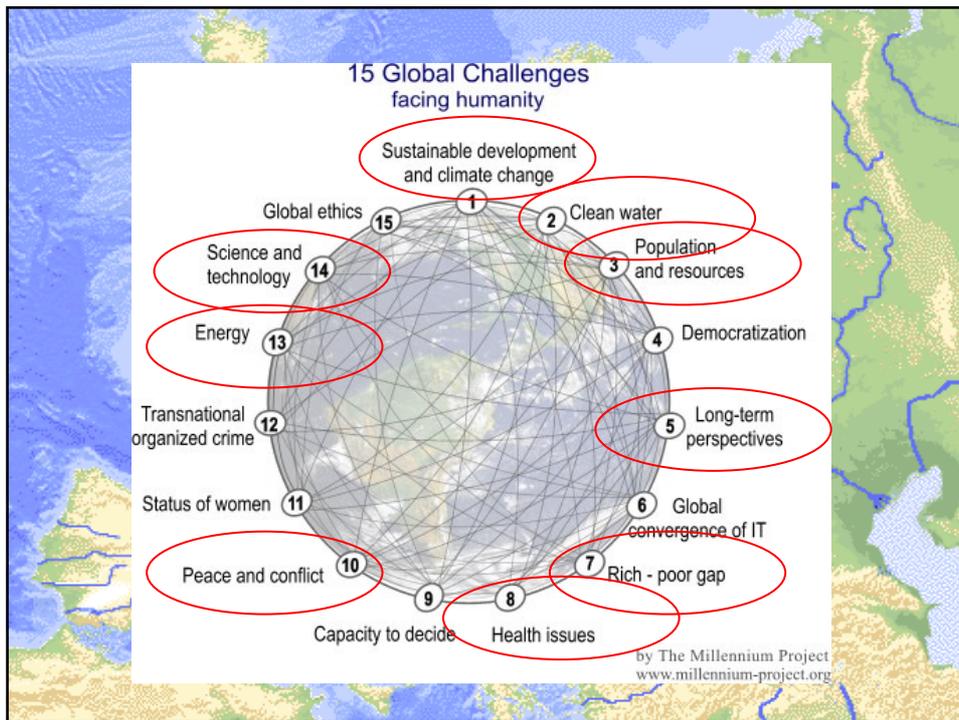
Connectivity in water resources
Options for transboundary water management
Rotterdam, 30. September 2010

Upstream and downstream benefits of cooperation

Dr. Fritz Holzwarth
Deputy Director General

German Federal Ministry for Environment, Nature Conservation and Nuclear Safety 1





As the Global Water Partnership puts Integrated Water Resources Management (IWRM)

„IWRM is a challenge to conventional practices, attitudes and professional certainties.

It confronts entrenched sectoral interests and requires that the water resource is managed holistically for the benefits of all.

No one pretends that meeting the IWRM challenge will be easy but it is vital that a start is made now to avert the burgeoning crisis.”

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Climate Change Adaptation through better Water Management

Urgency for action

Water is a vital für human survival, health and dignity and a fundamental resource for human development. The world 's freshwater resources are under increasing pressure.

Water governance crisis

Sectoral approaches to water resources management have dominated in the past and are still prevailing. This leads to fragmented and uncoordinated development and management of the resource.

Increased competition

Increased competition for the finite resource is aggravated by inefficient governance.

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Water is not simply a sector, water is a cross-sectoral resource

- Agriculture
- Water supply and Wastewater
- Mining and Industry
- Environment
- Fisheries
- Tourism
- Energy
- Transport

Each of the water uses identified above has valuable positive impacts. Most also have negative impacts, which may be made worse by poor management practices, lack of regulation or lack of motivation due to the water governance regims in place.

Each country has it's own priorities for it's developmental and economic goals.

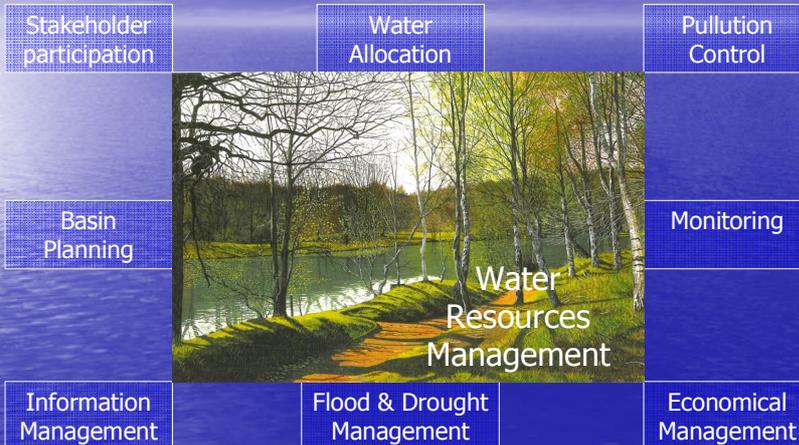
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Water Governance needs ...

- integrated Water Resources Management
- legitimate policies enforceable legislation and regulatory framework and an efficient administration
- reasonable institutional frameworks
- transparency and participation

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Challenges in Transboundary Cooperation



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Adaption at different levels

- Transboundary level
- National enabling environment
- National planning
 - IWRM plans, policies and strategies
- Basin water management
 - Functions of water management

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IWRM as an important adaptation measure

Improving the way we use and manage water today will make it easier to address the challenges of tomorrow.

Adaptation through „hard“ (infrastructure) and „soft“ (management, people, environment) measures.

The three main challenges are:

- Establishing dynamic organizations able to respond strategically and effectively to changing circumstances are needed.
- Making decisions based on forecasts rather than historical data and on managing uncertainty.
- Securing funding.

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IWRM can help adaptation to climate change

- Better water management makes it easier to respond to changes in water availability.
- Basin planning allows for risk identification and mitigation.
- Stakeholder participation helps in mobilization for action, risk assessment.
- Good management systems allows the right incentives to be passed on to water users.

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Adaptation has to respond to timescales for a long-term planning

Planning and response timescales may be categorized as follows:

- Responses to crises (such as droughts, floods, civil strife) (1-2 years).
- Human resources changes (2-3 years).
- Political horizons (3-5 years).
- Small infrastructure horizons (3-5 years).
- Outcomes horizons (5-8 years).
- Behavioural change horizons (10 years).
- Large infrastructure horizons (10-20 years).
- Development horizons (15- 20 years).
- Long-term capacity and intra-generational equity horizons (25+ years and beyond, depending on the level of the plan).

Source: Authors' compilation.

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Typology of climate change impacts on major agricultural systems (Deltas)

System	Current Status	Climate change Drivers	Vulnerability	Adaptability
Ganges-Brahmaputra	Densely populated. Shallow groundwater, extensively used. Flood adaption possible; low productivity	Rising sea level. Storm surges and infrastructure damage. Higher frequency of cyclones (East and South-East Asia). Saline intrusion in groundwater and rivers. Increased flood frequency. Potential increase in groundwater recharge.	Very high (flood, cyclones)	Poor, except salinity
Nile River	Highly dependent on runoff and Aswan Storage – possibly sensitive to upstream development		High (population pressure)	Medium
Yellow River	Severe water scarcity		High	Low
Red River	Currently adapted but expensive pumped irrigation and drainage		Medium	High, expect salinity
Mekong River	Adapted groundwater use in delta; Sensitive to upstream development		High	Medium

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Typology of climate change impacts on major agricultural systems
(Mediterranean)

System	Current Status	Climate change Drivers	Vulnerability	Adaptability
Southern Europe	Increasing pressure on water	Significantly lower rainfall and higher temperatures. Increased water stress. Decreased runoff. Loss of groundwater reserves.	Medium	Low
Northern Africa	High water scarcity		High	Low
West Asia	Heavy pressure on water		Low	Low

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We need a repositioning of water

- in the cross-sectorial relations
- in the transboundary contest
- in the interrelations with adaptation to climate change

to avoid „falling into the traps of sectorisation“

Repositioning of water requires cooperation
across sector boundaries

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Thank you for your attention

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