Institutional Arrangements and Water Governance

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What is the most important medical milestone since 1840?

(British Medical Journal, 2007)

Sanitary Revolution (Introduction of clean water and sewage disposal)

(Source: google)
Earth Water Distribution

Only 0.007 percent of the planet's water is available to fuel and feed its 6.8 billion people.

Source: Image from FAO, Statistics from WRI
Global Water Crisis

✓ Global water demand is projected to increase by 55%:
  3,500 km³ in 2000 → 5,500 km³ in 2050”
  (1 km³ = 1,000,000,000 m³, 1 Olympic-sized swimming pool = 2,500 m³)

✓ Over 40% of the world’s population is projected to be living in river basins experiencing severe water stress by 2050”

✓ (Main drivers) Human activities
  - Domestic water demand
  - Use of agricultural and industrial water
  - Urbanization
Threats to Water Resources

✓ Climate change causes change in frequencies of droughts and floods

✓ Pollution and contamination by sewage, agricultural and industrial run-off

✓ Depletion of aquifers caused by over consumption as a result of population growth
Water Stress Index 2012

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>Category</th>
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<tbody>
<tr>
<td>1</td>
<td>Bahrain</td>
<td>extreme</td>
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<tr>
<td>2</td>
<td>Qatar</td>
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<tr>
<td>3</td>
<td>Kuwait</td>
<td>extreme</td>
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<td>4</td>
<td>Libya</td>
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<td>5</td>
<td>Djibouti</td>
<td>extreme</td>
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<td>6</td>
<td>U.A.E.</td>
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<td>7</td>
<td>Yemen</td>
<td>extreme</td>
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<tr>
<td>8</td>
<td>Saudi Arabia</td>
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Water Scarcity & Mega-cities Converge in 2025

Over 65% of megacities will be in high or severe water stressed regions.
Goal 6: Ensure availability and sustainability of water and Sanitation for all

✓ Water Supply (6.1)
✓ Sanitation and Hygiene (6.2)
✓ Pollution Control and Reuse (6.3)
✓ Sustainable Use and Efficiency (6.4)
✓ Integrated Management (6.5)
✓ Water-related Ecosystem (6.6)
Interlinkages between Water Goal 6 and other SDGs

✓ Water-borne disease and malnutrition (3,2)
✓ Poverty and gender inequality (1,5)
✓ Sustainable food production and energy (2,7)
✓ Decoupling economic growth from environmental degradation (6,4)
✓ Sustainable Infra, industry, cities, and consumption and production (8,9,11,12)
✓ Climate change mitigation and adaptation (9)
Water and Three SD Dimensions

- Healthy and educated people
- Social and political stability

- Employment and production
- Finances for public services

- Sustainable water use and pollution control
- Education and legislation

- Water resources and other ecosystem services

- Water resources and other ecosystem services
- Sustainable water use and pollution control
- Finances for the environment
How to establish coordination mechanisms across institutional structures with different mandates?

✓ “Whole-of-Government” approach
✓ Intersectoral Partnerships
✓ Inter-ministerial Coordination Committees
✓ Joint monitoring & evaluation process and criteria
✓ Public participation and stakeholder engagement
How to ensure fair, efficient and sustainable allocation of water resources across various sectors?

✓ Integrated Water Resource Management (IWRM)
✓ Principles of Human rights, gender equality, and environmental sustainability
✓ Social and Environmental Impact Assessments
✓ Incentives for private sector financial flows and innovative technologies
UNDP Social & Environmental Standards

Overarching Policy and Principles

- Principle 1: Human Rights
- Principle 2: Gender Equality and Women’s Empowerment
- Principle 3: Environmental Sustainability

Project-Level Standards

- Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management
- Standard 2: Climate Change Mitigation and Adaptation
- Standard 3: Community Health, Safety and Working Conditions
- Standard 4: Cultural Heritage
- Standard 5: Displacement and Resettlement
- Standard 6: Indigenous Peoples
- Standard 7: Pollution Prevention and Resource Efficiency

Policy Delivery Process and Accountability

- Quality Assurance
- Screening and Categorization
- Assessment and Management
- Stakeholder Engagement and Response Mechanism
- Access to Information
- Monitoring, Reporting and Compliance
How to strengthen water acts to develop and manage water resources?

✓ An autonomous Water authority or decentralized structures
✓ Covering Freshwater, groundwater, or transboundary waters
✓ Addressing water supply, water quality, or flood control and drought management
✓ Water tariff structure
Water and Climate Resilience

How to reduce water-related climate change risks, while increasing synergies for water-climate nexus?

✓ Adapting to the risk of flooding
  - early warning & risk communication, investment in water infrastructures, sustainable land use, ecosystem management and restoration

✓ Adapting to the risk of drought
  - saving water, reusing wastewater, developing diverse water sources

✓ Mitigation
  - reducing carbon footprint, recovering resources such as energy, gas, gas, nitrogen and phosphorus

✓ Water information system, technology and indicators
Water and Capacity-buildings

What capacity gaps need to be addressed for a better water governance?

✓ Policy integration
✓ Data/information management
✓ Partnerships
✓ Financing
Urban Water Governance

How to meet increasing water demand, while ensuring equitable access to water resource for marginalized people?

✓ Bottom-up initiatives and local knowledge
  - managing drinking-water services
  - Ensuring access to sanitation (particularly informal settlement and slum areas)
  - Protecting water resources
  - Improving the management of run-off water
Governance for Transboundary waters

How to unlock potential for water resources for drinking, agriculture and industry, flood risk management, fisheries and tourism, hydropower, and inter country navigation?

✓ Integrated river basin management
e.g.: UNDP GEF project (8 ASEAN countries, 8 rivers)
✓ Joint planning and flexible management
✓ Effective management of Infrastructures
✓ Improved data and information-sharing
✓ Enhancing benefit-sharing
Thank you