

Under the High Patronage of His Majesty King Mohammed VI



**XIX WORLD WATER CONGRESS**  
International Water Resources Association (IWRA)  
Marrakech, Morocco | 1-5 December 2025

Kingdom of Morocco



Ministry of  
Equipment and Water

# Unconventional Water Resources: Rights and Obligations

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A Ripple Effect  
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# Types of Unconventional Water Resources

- ▶ Recycled wastewater
- ▶ Reclaimed agricultural drainage
- ▶ Bulk water transfers
- ▶ Deep onshore/offshore groundwater
- ▶ Desalination
- ▶ Ballast water (ships)
- ▶ Icebergs
- ▶ Atmospheric water
  - ▶ Fog and rainwater harvesting
  - ▶ Cloudseeding



# Principles of Ownership of Natural Resources



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Sovereign rights → Land & continental shelves

Global commons → Air & high seas

Benefits of sovereignty

Exclusive rights to Natural Resources

Can allow private ownership

Transboundary resource principles

Good neighborliness (upstream)

No significant harm (downstream)

Environmental protection (Precautionary Principle)

Rule of capture for water and hydrocarbons



# Rights in unconventional water resources



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## Sovereign/property rights

Municipal wastewater

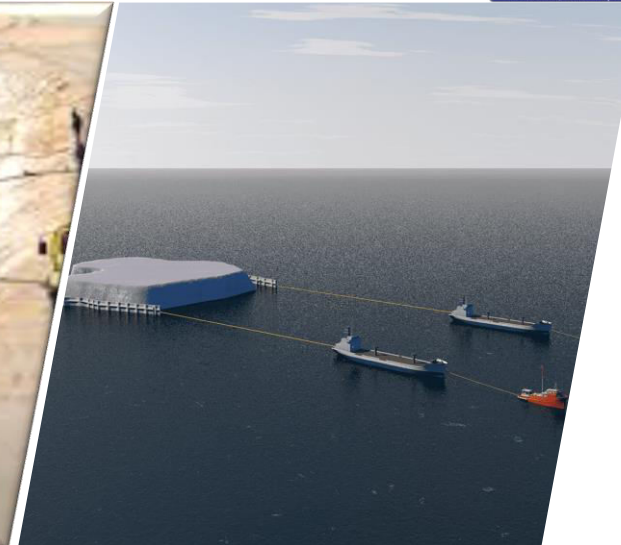
Agricultural drainage water

Bulk water transfers

Deep onshore/offshore groundwater

Desalination

Ballast water



## Hybrid

Icebergs

## Commons

Atmospheric water (fog, rain)?



# Atmospheric Water: A Proposed Regime



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**Fog and rainwater harvesting**  
Water touches the ground →  
Sovereign/property rights



**Cloud seeding**  
Strong transboundary possibilities →  
Apply transboundary principles  
Rule of capture  
Good neighborliness (upstream)  
No significant harm (downstream)  
Environmental Protection



# Responsibilities when using UWC



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## Sovereignty over resources

Responsibility to safeguard resources for future generations

Responsibility not to affect ecosystems

## Transboundary resources

Responsibility not to harm neighbor

Responsibility not to affect neighboring ecosystems



# Closing Thoughts



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**Unconventional water resources will be increasingly attractive**

**Utilization will depend on proximity & cost**

**Traditional sovereign principles will apply**

**Governance gap remains for atmospheric water**



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