FASTER

Farmers' Adaptation and Sustainability in Tunisia through Excellence in Research

2nd FASTER SPECIALIZED TRAINING

on Climate change effects on water & land management in the Mediterranean

22-26 March 2021 (ONLINE)

AGENDA

Integrated Water Resources Management

Introduction & stakeholder engagement

- Outline
  - IWRM definition & justification
  - Stakeholder engagement in IWRM
  - Examples of stakeholder identification
  - Discussion
- After break
  - User-conflict & optimization
- Take home task
  - Stakeholder identification in selected areas

Program

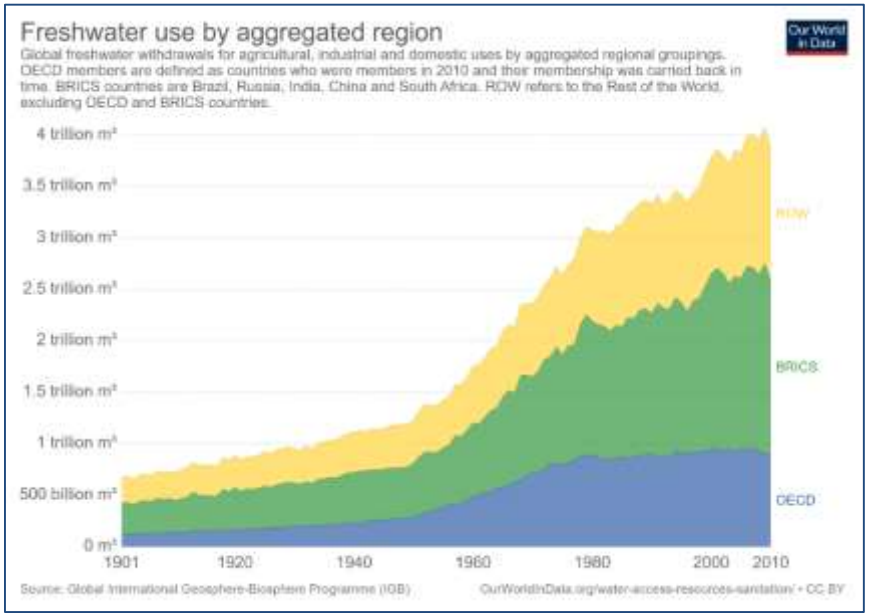
	Monday 22nd	Tuesday 23rd
	Climate change in the Mediterranean (trainers: Ronny Berndtsson)	*Integrated water & land resources management (trainers: Erik Nilsson and Linus Zhang)*
9:00-9:30	***Introduction***	-
9:30-10:00	Trainer: **Ronny Berndtsson** Projections with effects on water availability	Trainer: **Erik Nilsson** Introduction to integrated planning and management in view of competing stakeholders and demand
10:00-10:30	Facilitated debate (**Ronny Berndtsson**)	Facilitated debate (**Erik Nilsson**)
10:30-11:00	Break	Break
11:00-11:30	Trainer: **Ronny Berndtsson** Innovative mitigation to climate change and increasing demands	Trainer: **Linus Zhang** User conflicts and IWRM optimization
11:30-12:00	Facilitated debate (**Ronny Berndtsson**)	Facilitated debate (**Linus Zhang**)
12:00-12:30	Explanation of tasks to do and Wrap up (**Ronny Berndtsson**)	Explanation of tasks to do and Wrap up (**both teachers**)

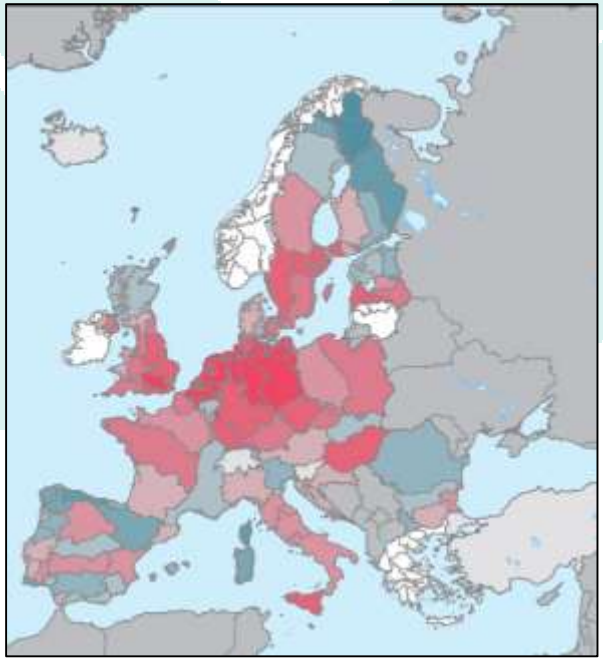
Erik Nilsson (Ph.D.)
erik.nilsson@tvrl.lth.se

Water use sectors

Water use sectors
Aquaculture
Agriculture
Coastal areas
Drinking water
Ecology / environment
Energy production
Flood control
Industry
Recreation & aesthetics
Sanitation
Transportation

Changes in water availability & quality





(EEA, 2018)

Drivers of water availability & use:

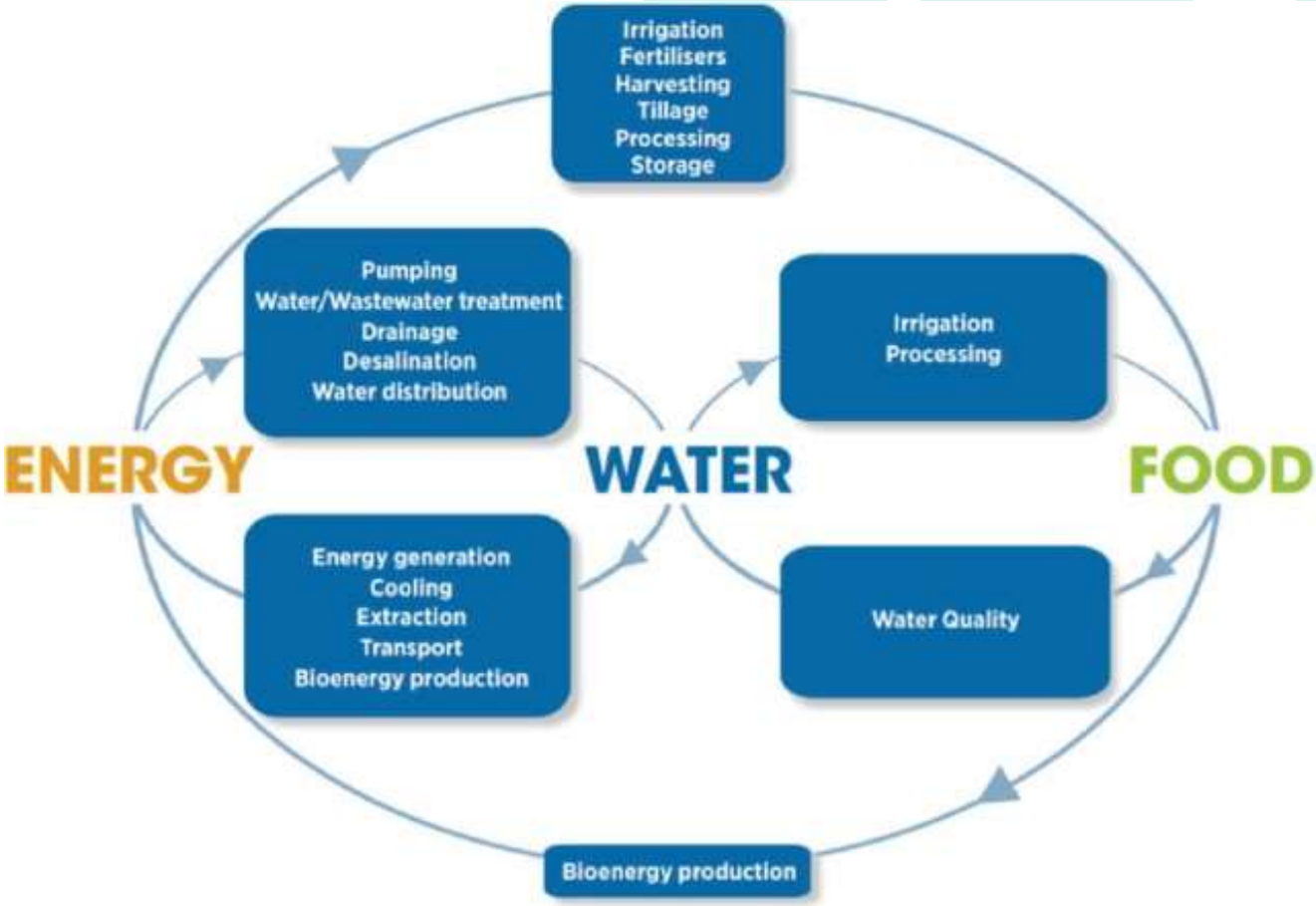
- Population increase
- Economic development
- Globalized trade patterns
- Migration & mobility
- Governance and management
  - Political objectives (e.g. sustainability, nationalism)
  - Data availability & digitization
  - Technological development (water use efficiency)
- Climate variability & change

Water as complex socio-ecological system

- Multiple actors
  - Varying interests
  - Varying influence
  - Different value systems
- Unknown and lasting effects
  - Direct & lagged effects
  - Shared unequally among actors
- Fragmented management
  - Conflicting government responsibilities
  - Spatial levels (local → international)
  - Unequal power balance
- Increasing demand
- Evolving over time
  - Uncertainty in availability
- Crucial for societal foundations

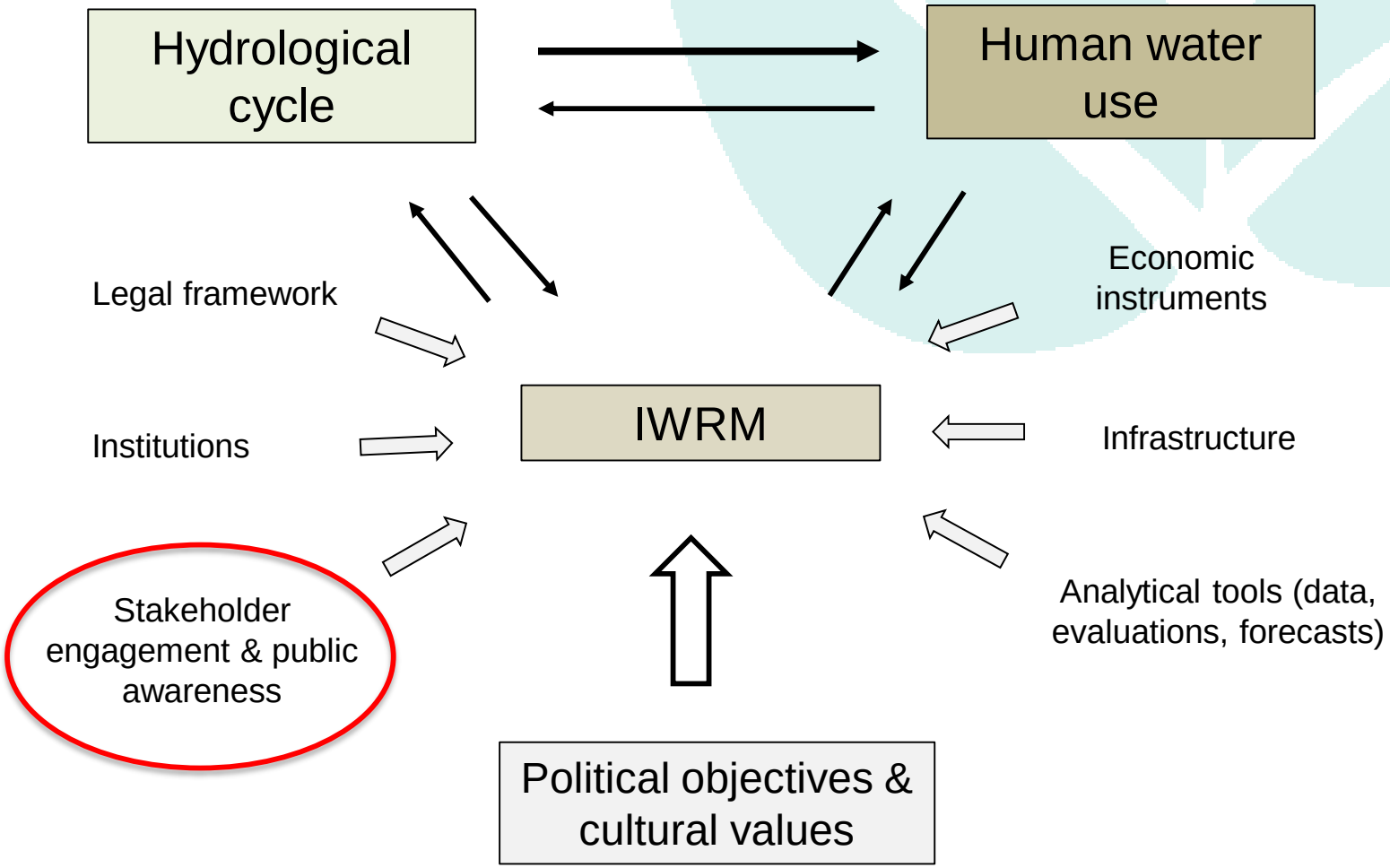
(IWA, 2018)

Competing demands in the water sector



(IRENA, 2015)

Integrated Water Resources Management



Framing IWRM

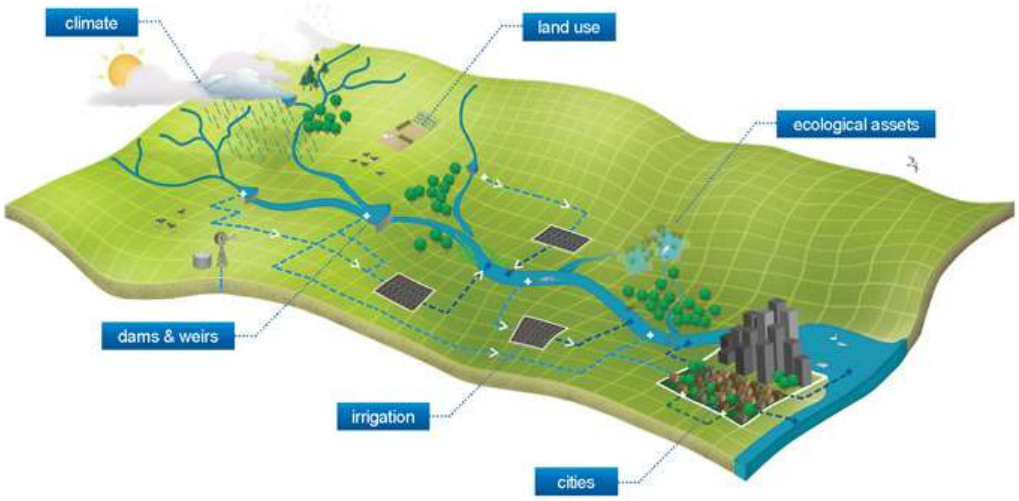
The hydrological cycle:

- Land and water
- Surface and groundwater management
- Quantity and quality
- Upstream and downstream
- Freshwater and coastal zone management

Water management

- Cross-sectorial integration in national policies
- Integration across different management levels
- Linking water resources planning:
  - National security and trade policies
  - Sustainable development
  - Poverty alleviation
- Involvement of all stakeholders in the planning and decision process

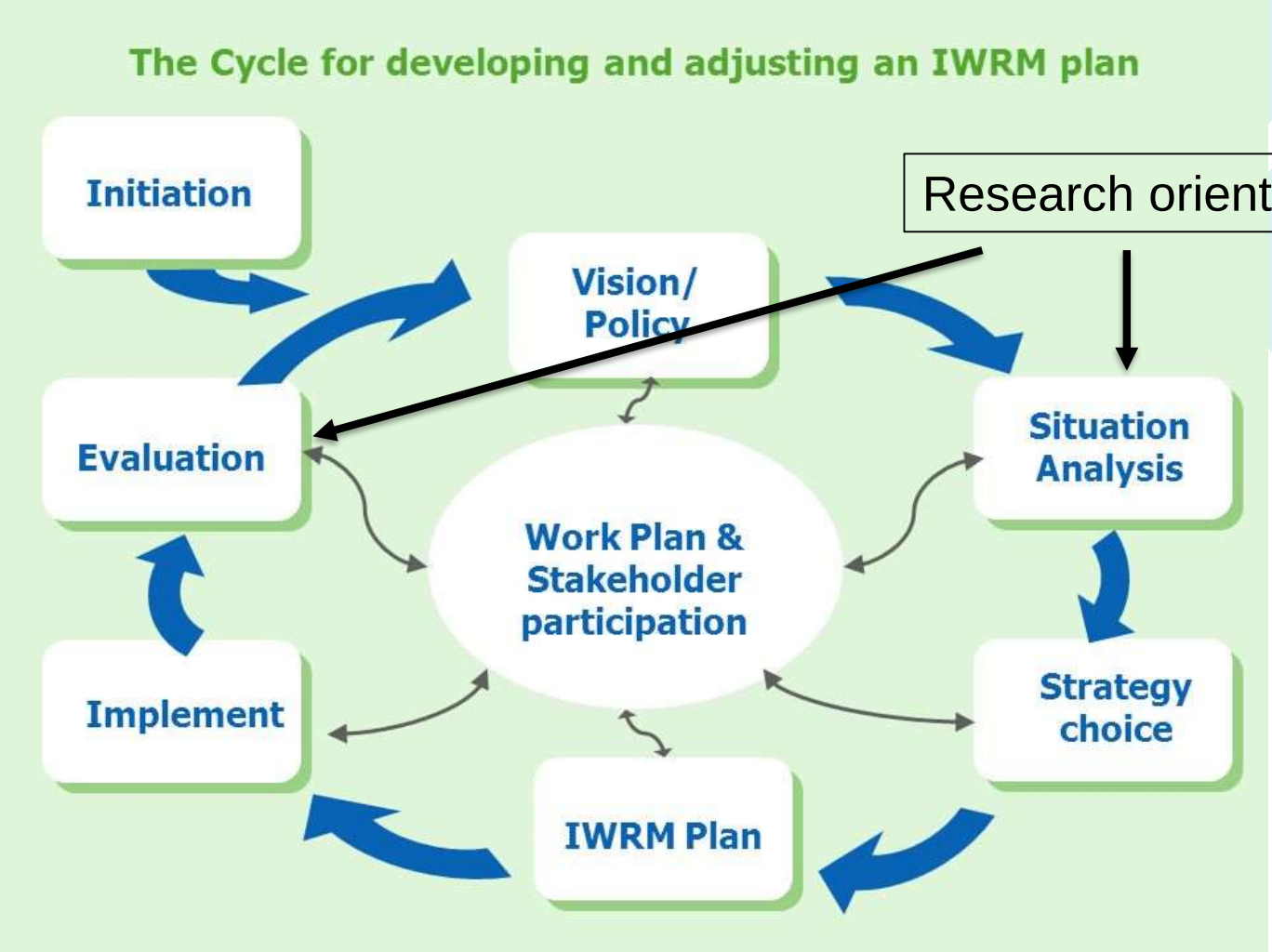
Hydrological cycle & water use



Water management & governance

(Galvez & Rojas, 2019)

Framing IWRM



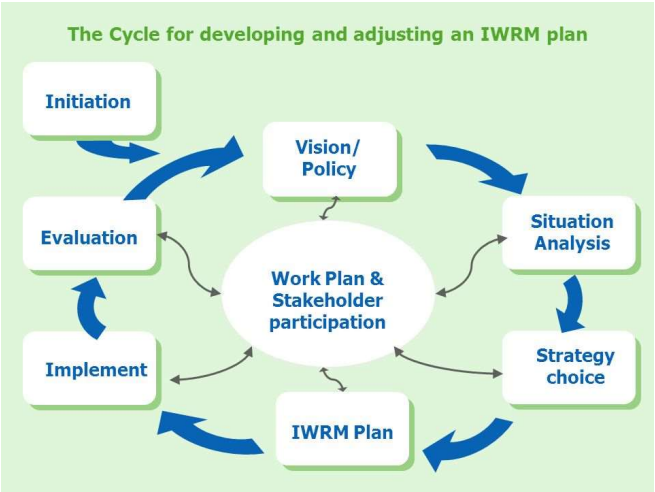
Stakeholder engagement

Stakeholder definition:

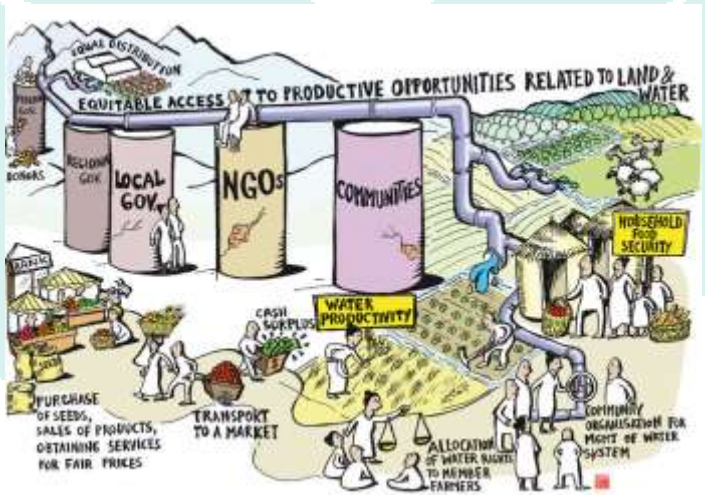
Any actor (groups, individual):

- Affected by outcome of activity
- Affecting the planning process

Stakeholders affecting the planning process



Stakeholders affected by outcome



(Van Hemelrijck A., 2013)

Why stakeholder engagement?

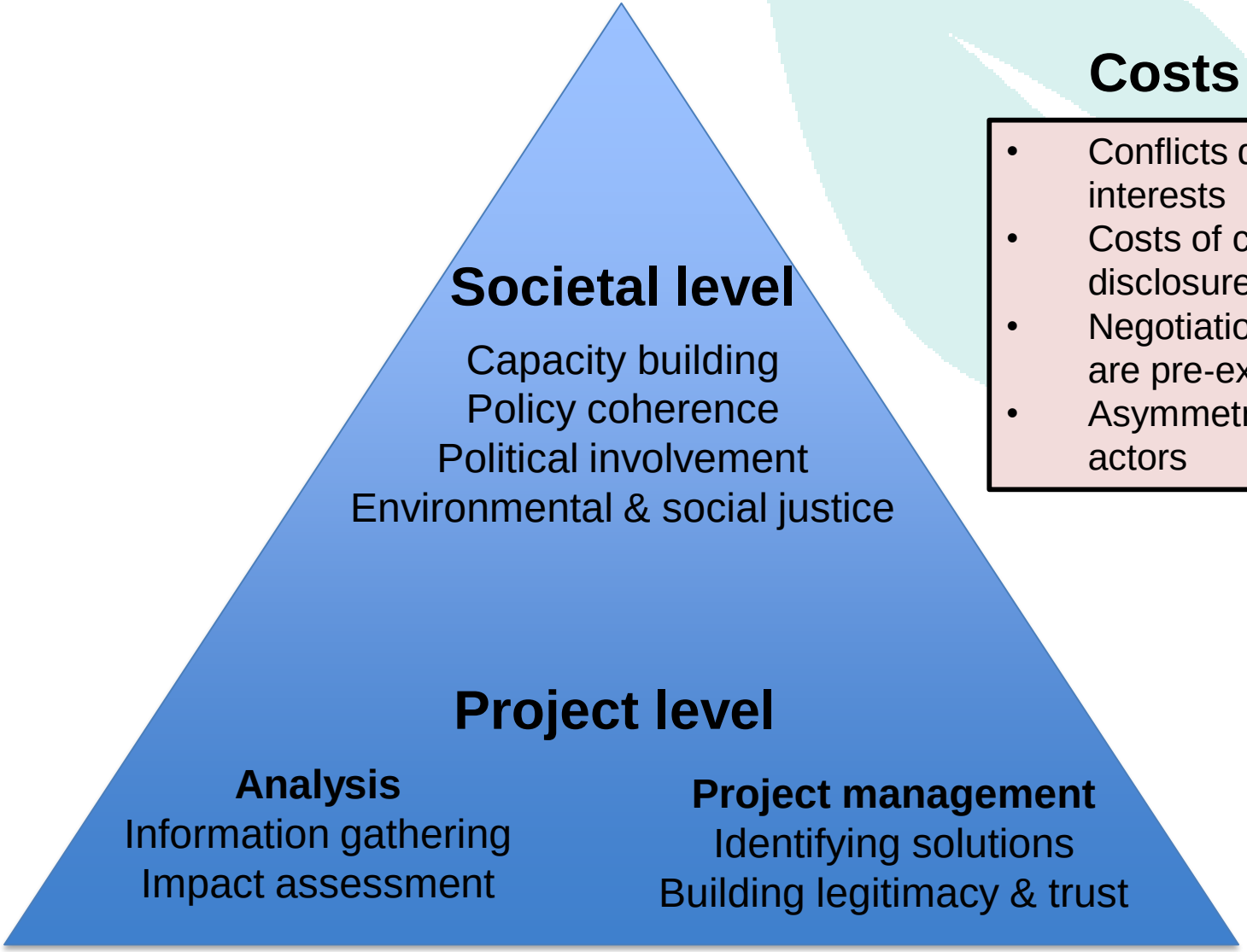
Gather information

- Identify impacts & relationships

Involve actors in management

- Identify solutions
- Building legitimacy & trust
- Encourage political involvement beyond current project

Why stakeholder engagement?



Costs & issues?

- Conflicts due to diverging interests
- Costs of communication and disclosure of information
- Negotiation costs when there are pre-existing conflicts
- Asymmetrical power between actors

(OECD, 2015)

Stakeholder engagement levels

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Involve in management

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Share & gather information

(OECD, 2015)

Stakeholder engagement – when to do it?

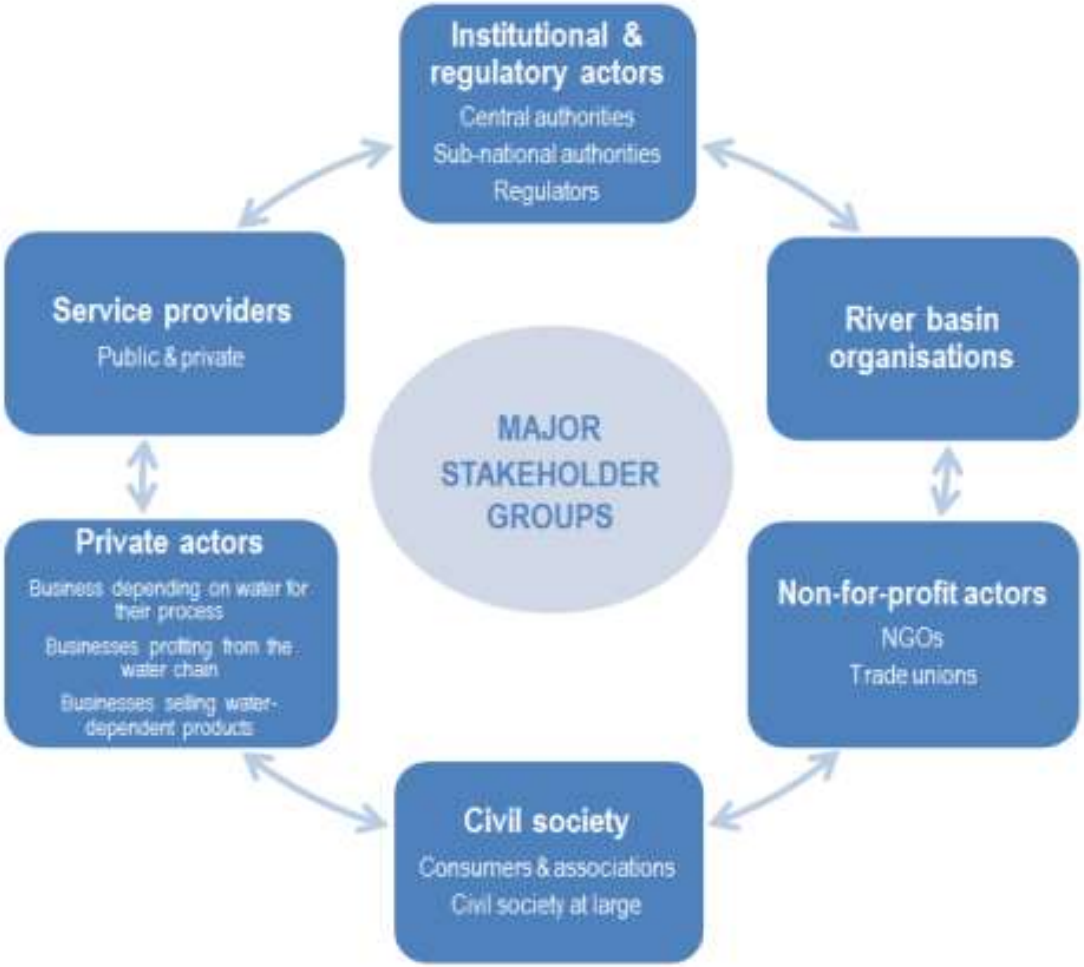
1. Effects across multiple sectors & stakeholders
2. The issue is a high priority for the stakeholders
3. Lasting environmental & social effects
4. Uncertainty in effects
5. Large public funding requirements
6. Several government agencies concerned
7. Disagreement over how to resolve the issue
8. Power asymmetry among stakeholders
9. Politically marginalized groups affected

(Adapted from Galvez & Rojas, 2015)

Methods for stakeholder analysis

Stakeholder analysis to:

- Describe current situation
- Estimate effects
- Identify solutions
- Generate outcome



(OECD, 2014)

Methods for stakeholder analysis

Stakeholder analysis to:

- Describe current situation
- Estimate effects
- Identify solutions
- Generate outcome

Practical steps

- Identify water users concerned by project / plan
- Identify stakeholders connected to each water user
- Estimate effects on stakeholders
  - Gather information from stakeholders

Situation and outcome analysis

- Identify stakeholder interests
  - Stated & revealed interests
  - Funding opportunities vs compensation scheme?
- Identify stakeholder influence
  - Political & financial power
  - Not only to identify high influence groups, but also to strengthen awareness and participation among groups with low influence
- Identify key relationships between stakeholders
  - Shared / opposing interests?
  - Collaborators / competitors?

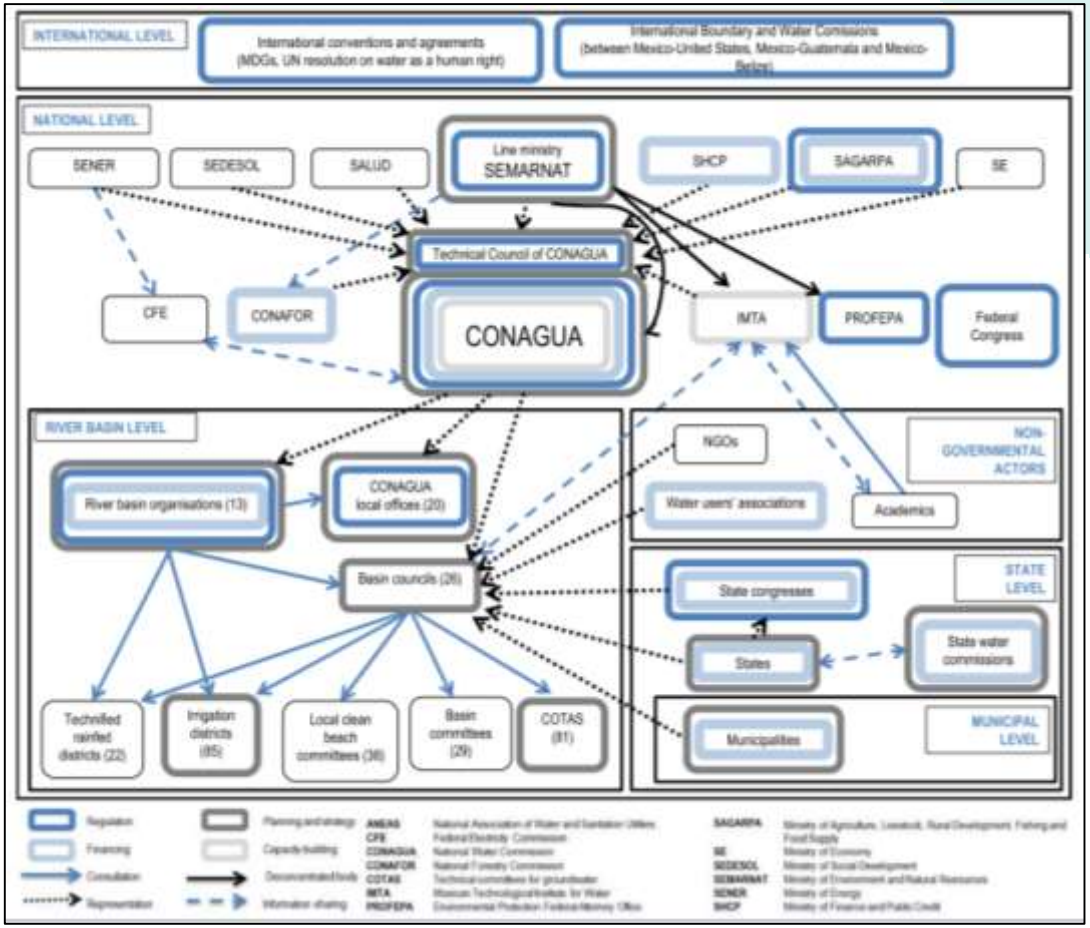
Project management & political capacity building

(REC, 2016)

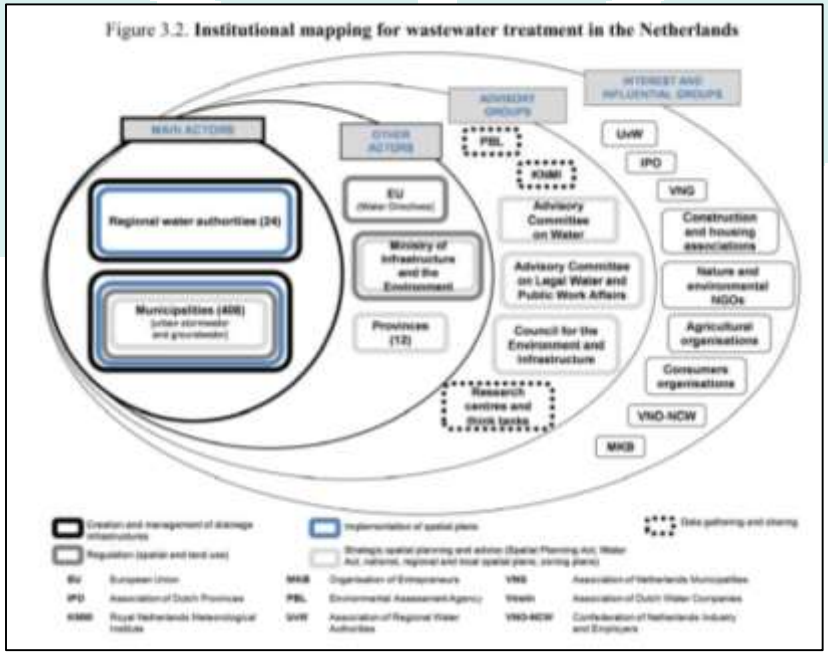
(OECD, 2015)

Stakeholder analysis - examples

Institutional roles and responsibilities in Mexico



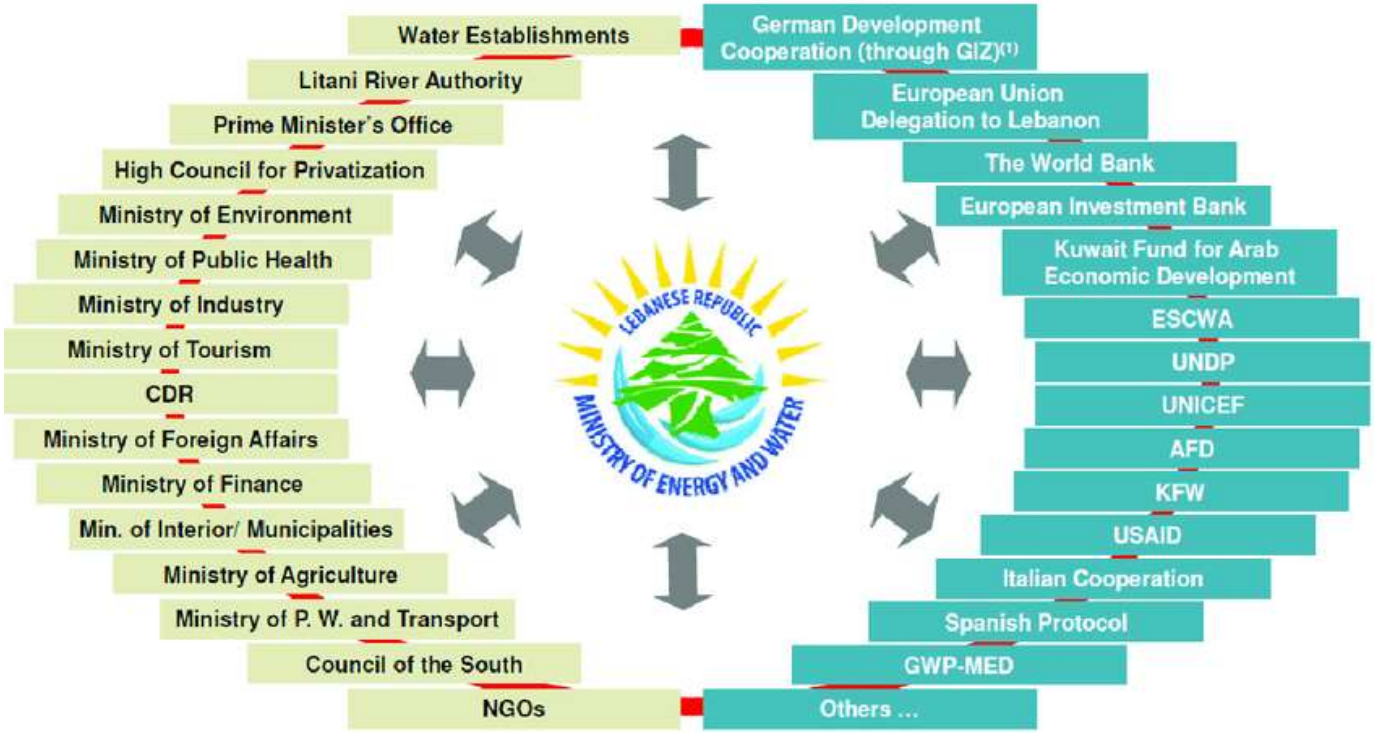
Wastewater treatment in Netherlands



(OECD, 2015)

Stakeholder analysis - examples

Connections to the Ministry of Energy and Water in Lebanon



National International

(MoEW, 2010)

Conclusions on stakeholder analysis

- Increasingly important:
  - Pressures on water availability
  - Complexity of socio-ecological system
- For analytical purposes, use to:
  - identify extent and details of issues
  - Identify solutions
- For project management efficiency, use to:
  - Build legitimacy & ownership
  - Identify potential funding sources
  - Identify potential compensation measures
- For societal development, use to:
  - Strengthen capacity and awareness for political engagement
  - Ensure policy coherence
  - Build political legitimacy
- Conditions for stakeholder involvement?
  - Effects across multiple sectors
  - Lasting environmental & societal effects
  - Value disagreements
  - Large funding requirements

Discussion - Stakeholder analysis

- **Suggested questions**
  - Main water issues & conflicts in selected areas?
  - Main stakeholders connected to water issues in your area?
  - Methods for stakeholder identification
    - Data sources?
  - Methods for stakeholder evaluation?
    - Interest, influence?
- **Take home task**
  - Stakeholder identification in water management in selected area

Discussion - Stakeholder analysis

- EEA, 2018. *European waters Assessment of status and pressures 2018.* European Environment Agency
- IWA, 2018. *Letting go of the need to know: an important water-wise principle.* Interational Water Association
- IRENA, 2015. *Renewable energy in the water, energy & food nexus.* International Renewable Energy Agency.
- *Galvez V., Rojas R., 2019. Collaboration and integrated water resources management: A literature review*
- Van Hemelrijck A., 2013. *Powerful Beyond Measure? Measuring complex systemic change in collaborative settings.*
- OECD, 2015. *Stakeholder engagement for inclusive water governance.* Organization for Economic Cooperation and development
- OECD, 2014. *Stakeholder engagement for inclusive water governance – Scoping note.* Organization for Economic Cooperation and development
- REC, 2016. *Stakeholder Analysis for Integrated Water Resources Management – A MENA case study.* Regional Environmental Centre, Hungary.
- MoEW, *2010. National Water Sector Strategy: Baseline, Ministry of Energy and Water (Lebanon).*

That´s all for now!

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