

# Assessing Management Regimes in Transboundary River Basins: Do They Support Adaptive Management?

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# Content

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- What is **Adaptive Water Management**? Where does our work fit into?
- **Criteria** for AM regimes
- Measuring transboundary regimes – **case studies**
- Future **research agenda**
- Some **concluding remarks**

# Adaptive Water Management -AM



- What is different from IWRM? Both integrated, but **different focus**

Basis:

- Water management = **complex**: uncertainty, change (e.g. climate!), many different stakeholders & interests → prediction & control **impossible**
- **Transboundary**: additional barriers to cooperation / adaptive management solutions

# Adaptive Water Management

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Therefore, AM focuses on:

- The need to **increase capacity to adapt** to changing circumstances, by:
  - Continuous **learning** of all stakeholders & policy makers
  - Active preparation & continuous improvement of strategies, “try & learn”, keep **options open**

But:

- Multiple, non-specific definitions of AM → **need for concretisation**. Our work related to transboundary AM & management regimes

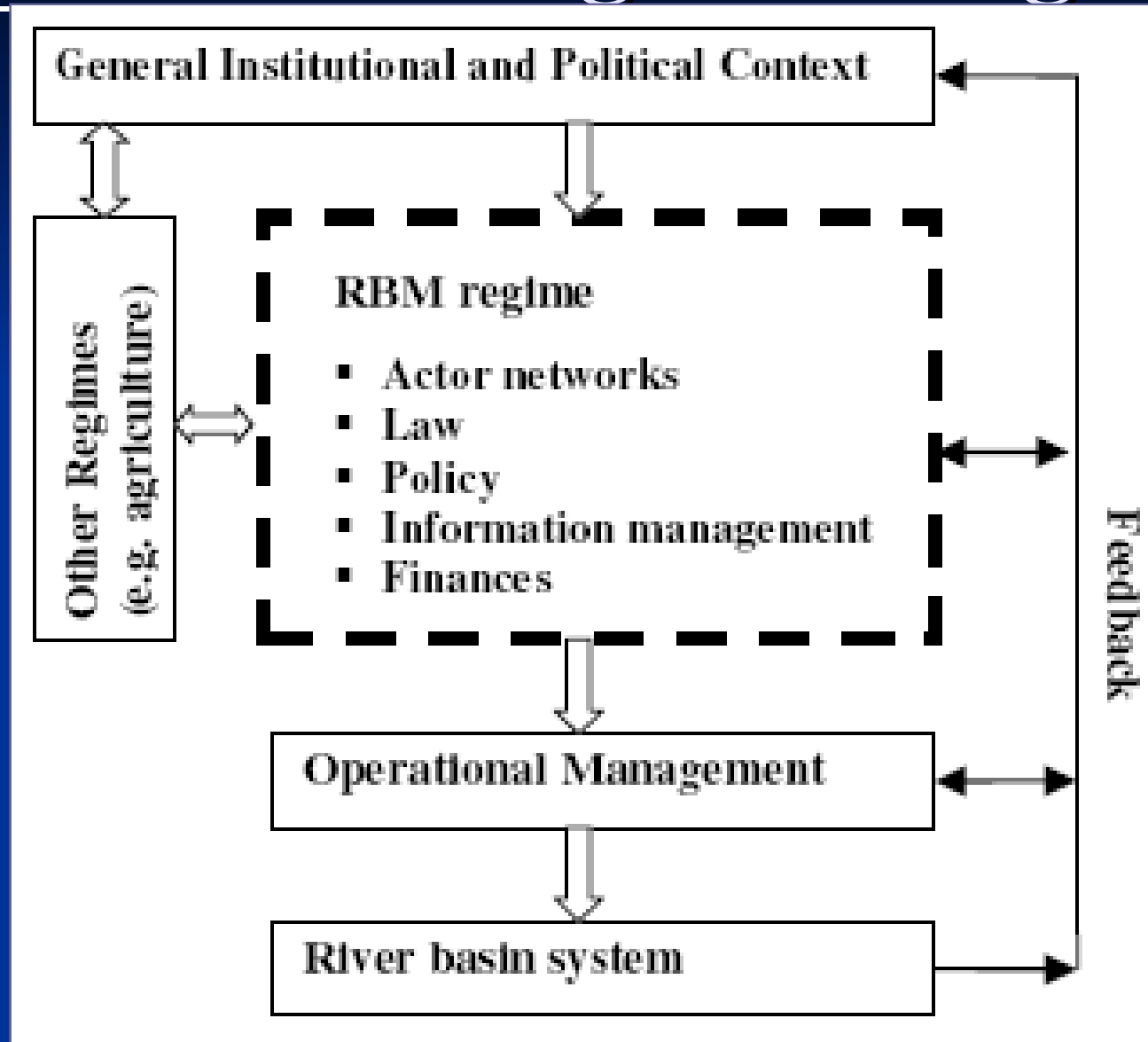
# How to understand AM regimes?

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- (Rather) **new field of research!** Esp. linked to transboundary situation
  - Current **literature:** Useful, but fragmented lessons
  - So far: **lack of comprehensive perspective** on desired AM - situation & steps to take in a specific situation in order to get closer to AM
- We developed **key features & relevant criteria** for assessing the adaptiveness of a (transboundary) regime

# River Basin management regime



# Key feature 1: Actor networks

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Discussion of perspectives essential for active learning: involve **wide range of stakeholders**

Criteria:

- **Cross-sectoral** cooperation
- Cooperation between **administration levels**
- Cooperation across administrative **boundaries**
- Broad stakeholder **participation**

# Key feature 2: Legal framework

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## Criteria:

- **Appropriate** legal framework:
  - Comprehensive, clear, sufficient detail;
  - Incentives for review & change (of actor network, policies, information management, finances)
- **Adaptable** legislation



# Key feature 3: Policy

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## Criteria:

- **Long time** horizon/perspective
- Full consideration of possible measures, esp. flexible measures, **keeping options open**
- **Experimentation** (Policy = hypothesis, management action = experiment)
- Actual **implementation** of policies: action

# Key feature 4: Info management

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## Criteria:

- **Joint/ participative** information production
- **Interdisciplinarity**
- **Critical self-reflection & transparency about assumptions**
- **Explicit consideration of uncertainty**
- **Broad communication**
- **Utilization** of information

# Key feature 5: Finances

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## Criterion:

- **Appropriate** financing system, e.g.:
  - **sufficient resources** available for adaptive solutions;
  - adequate & incentive **cost recovery**;
  - decision-making & financing should **correspond**

# Testing: Case study approach

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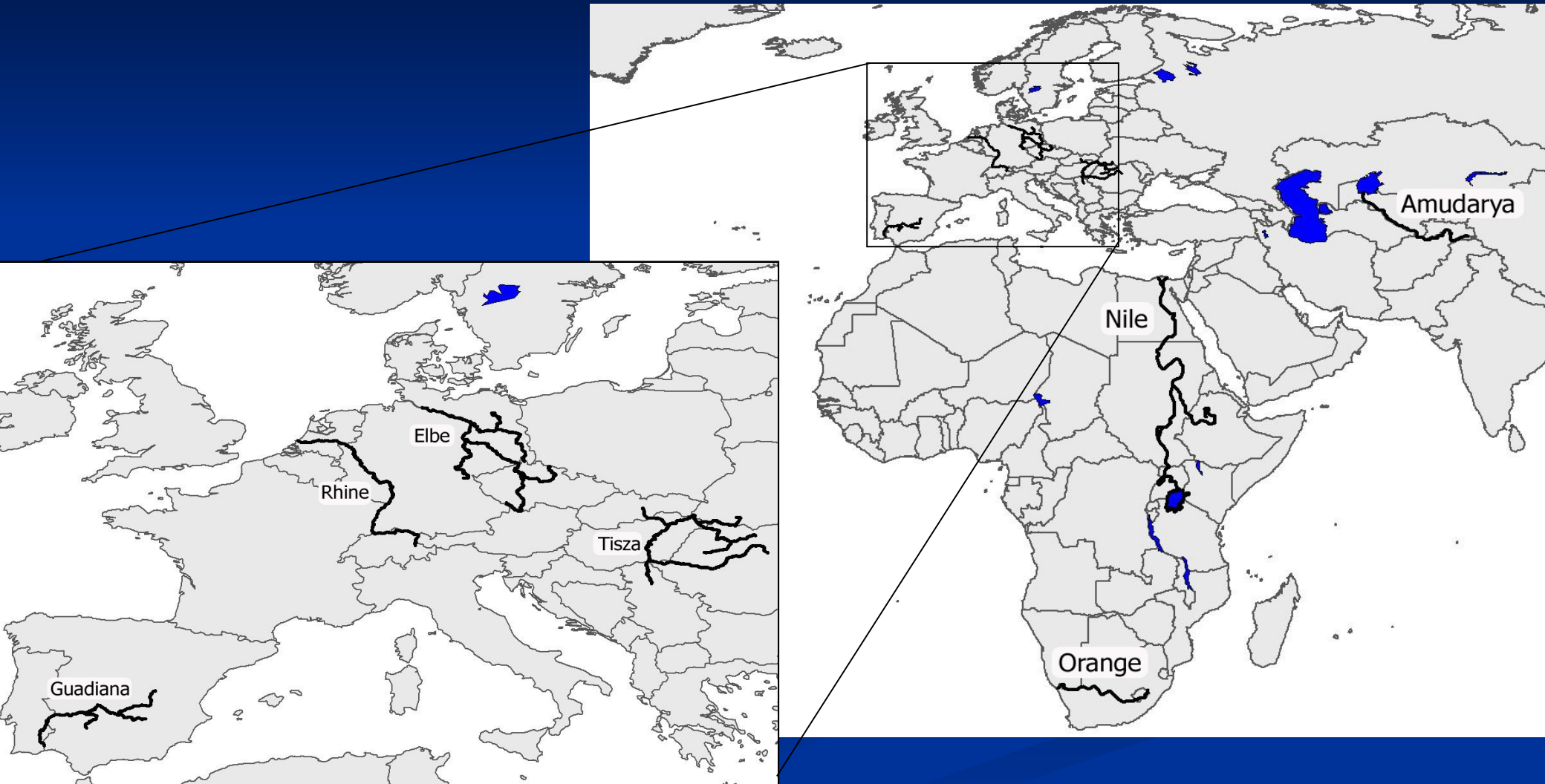


- **Seven** transboundary basins considered;
- Two of them analyzed in detail (sufficient information): **Orange** (S. Africa) & **Rhine** (Europe)
- Literature study & experience of researchers & interviews: qualitative scoring of criteria
- Discussion & comparison, identification of **patterns**
- Identification of possible **steps towards a more adaptive regime**

# Case study basins



- Linked to the EU-research project NeWater



# Characteristics of main CS



Basin	Area (x1000 km <sup>2</sup> )	Length (km)	Discharge mouth (m <sup>3</sup> /s)	No. of coun- tries	Main users	Main Issues
Orange	948	2,200	95	5	Irrigation Environment Power	Allocation Transfers Droughts
Rhine	198	1,300	2,200	9	Navigation Irrigation Industry etc.	Quality Floods

# Example: Rhine

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- **Finances** (many resources, costs often recovered) & **policy** very well-developed (co-operation since 1950, ICPDR, EU, regional, local)
- **Actor networks, legal framework** (EU law, ICPDR policies) & **information management** slightly lower scores

Elements towards a **more adaptive regime**:

- Developing cooperation between sectors & disciplines ; reflection on interpretations, assumptions & uncertainties, better utilization of information

# Conclusions & discussion

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The **Framework** developed:

- Makes AM (a bit...) **more specific** / offers a **comprehensive, normative** perspective to transboundary regimes
- **Hypothesises** on what constitutes AM
- Helps in identifying strong and weak elements of a regime (e.g. information gaps)
- Indication of **way forward** for understanding AM



# Conclusions & discussion

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Room for improvement:

- **Subjectivity** scoring!
- No “**reference regime**”
- Understanding of the **complex, interrelated structure** of criteria needs to be strengthened

# Further research

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- Further development of **framework**
- Development of more accurate and objective **instruments for measuring**
- Analysis of (historical) **regime development**
- **Test** whether an adaptive regime supports adaptive operational management

**Thank you for listening!**



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