

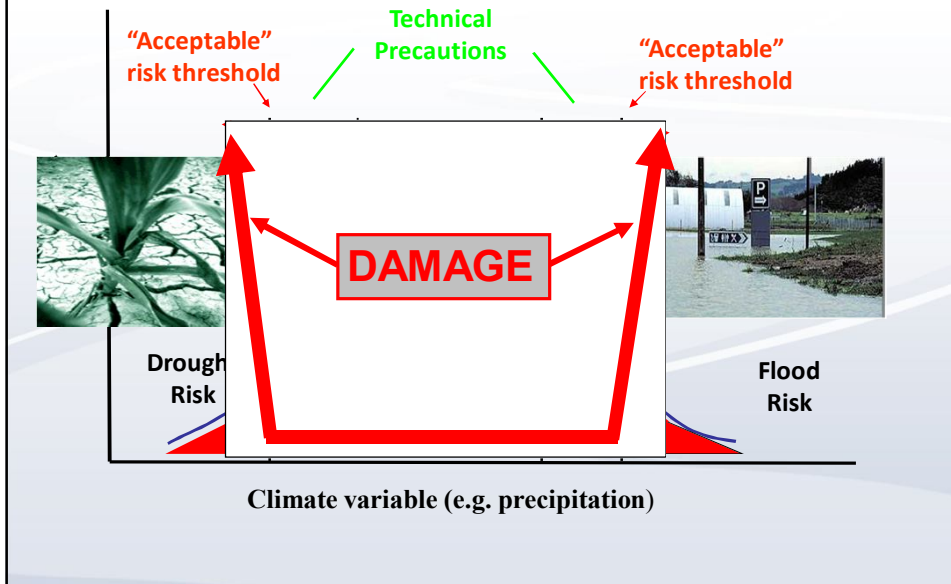
From Panaceas Towards a Diagnostic Approach in Water Governance and Management

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Overview

- ***Need for Transformative Change***
- ***Theoretical Understanding of Transformative Change***
- ***Empirical Insights from Comparative Analyses***
- ***New Modes of Coordination in a Networked Society***

Prevailing Risk Management



Disastrous Flooding Germany 2013



Overexploitation



Boat in the Guadiana basin (Spain) reminding visitors that there used to be water and a fishery prior to overexploitation by agricultural irrigation (by courtesy of Andrew Ross)

The Solution.... IWRM?

Adaptive Management
Water-Food-Energy-Nexus
Water Security
.....

Times of Change in Water Management

Similarities in paradigm shifts in water management derived from sources published during past decade

- ▶ **participatory** management and collaborative decision making
- ▶ increased **integration** of issues and sectors
- ▶ management of problem **sources not effects**
- ▶ decentralized and more **flexible** management approaches
- ▶ more attention to management of **human behaviour** by “soft” measures
- ▶ include **environment** explicitly in management goals
- ▶ introduce the hydrological principle to manage at **basin scale**
- ▶ open and shared **information** sources (including linking science and decision making)
- ▶ incorporating iterative **learning cycles**

Pahl-Wostl et al, 2011

Water Security Definition(s)

- ▶ *“Water security can be defined as the availability of an **acceptable quantity and quality** of water for health, livelihoods, ecosystems and production, coupled with an **acceptable level of water-related risks** to people, environments and economies”. (Grey and Sadoff, 2007)*
- ▶ *“Water security is a **tolerable level of water-related risk to society**” (Grey et al, 2013)*

How to define what is acceptable (tolerable)?

Different domains follow a different logic and framing how acceptable is and should be derived and at which level(s)

This poses a considerable governance challenge - how to analyse and negotiate trade-offs among the different domains

Pahl-Wostl, Palmer, Richards et al, 2013

Governance Failure as Cause for Trade-offs

- ▶ Inappropriate governance settings – fragmented, lack of horizontal and vertical coordination
- ▶ Lack of implementation of governance arrangements (capacity problems, lack of political will and asymmetric power structures)
- ▶ Ignorance of the importance of governance settings – focus on technical, natural science approaches

.....Transformation of Governance Systems as Source for Solutions

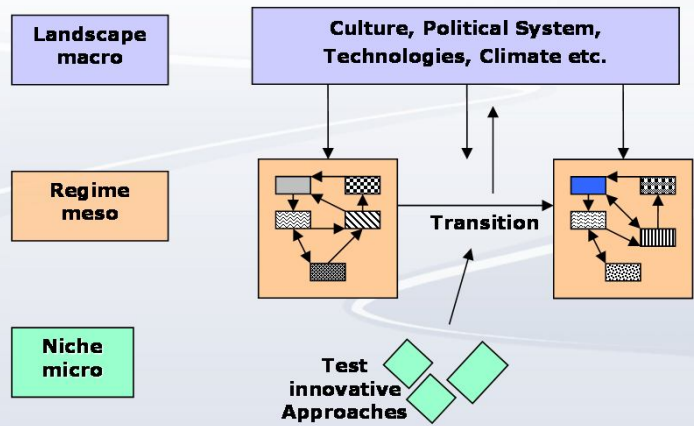
- ▶ Polycentric structures
- ▶ Combination of governance modes (Markets, Bureaucratic Hierarchies, Networks)
- ▶ Implementation of ecosystem services approach to make trade-offs explicit

***Governance of
Transformation***

***Societal Learning
Processes***

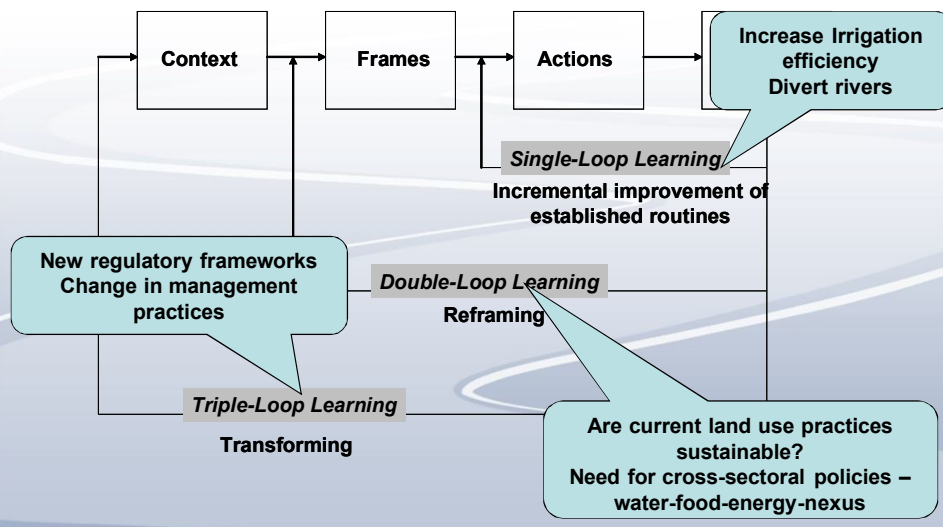
***State of Scientific
Understanding of
Societal Transformations***

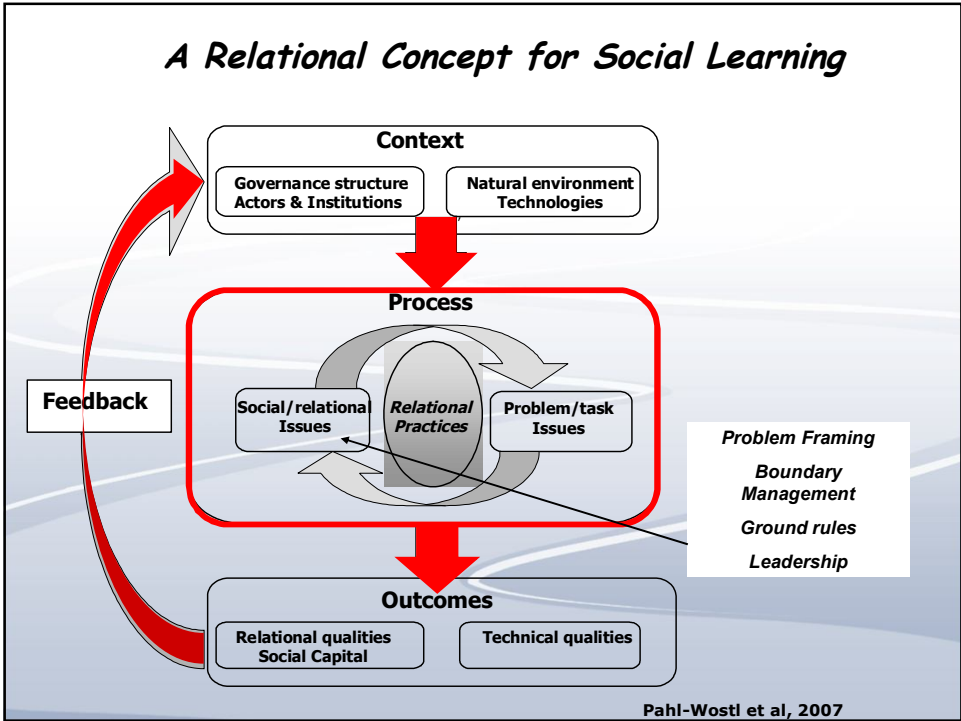
A Multi-level Concept of Transitions



Geels, 2002; Pahl-Wostl, 2007

An Evolutionary Perspective on Societal Change





***Transformative change includes
combination of purposeful design and
processes of emergence and self-
organization***

***How Multilevel Societal Learning Processes
Facilitate Transformative Change: A Comparative
Case Study Analysis on Flood Management***

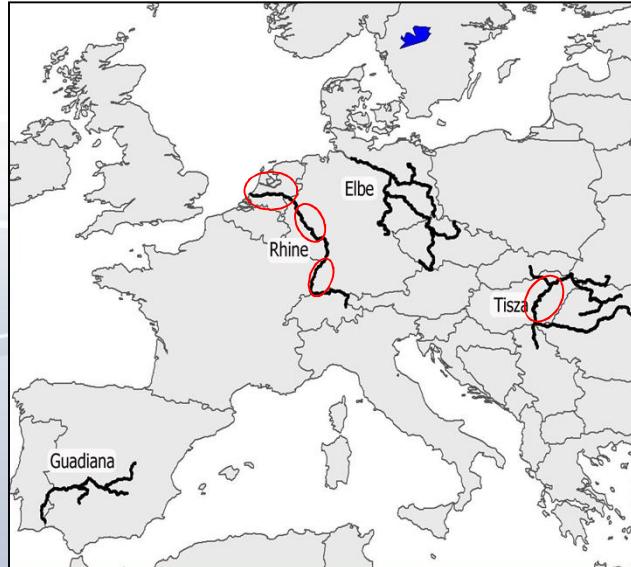
***Pahl-Wostl, C., Becker, G., Sendzimir, J., and Knieper, C.,
Ecology and Society, 2013***

Major Research Goals

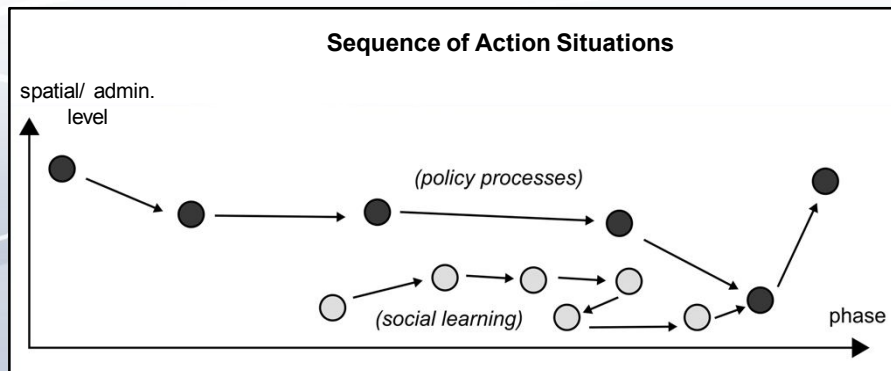
***Analyse the importance of higher levels of learning for the
transition from traditional to integrated flood management***

***Test the appropriateness of the triple-loop learning concept
to analyse and explain change***

Three National Basins



Multi-level Process Representation



What drives change?

- Moving from discourse to structural transformation depends on **effectiveness of links between informal settings and formal policy processes.**
- Informal spaces and diverse actor networks important to support integration of knowledge and experimentation with innovative approaches.
- Connections between learning and policy processes that hinge on individual actors are fragile if innovative approaches are not codified in formal institutions and widely shared practices.
- Natural disasters as windows of opportunity for policy change
- Change takes place on time scales of years - decades

Towards Adaptive Governance in River Basins: From panaceas to context sensitive analyses and recommendations

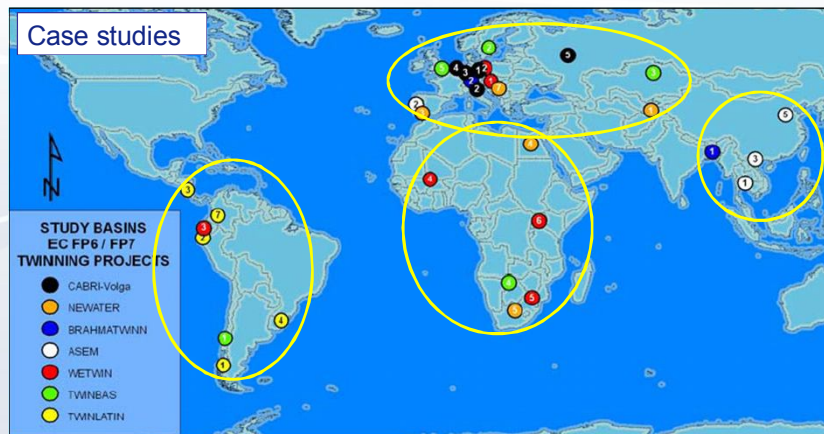
Major Research Questions

What are requirements for adaptive water governance?

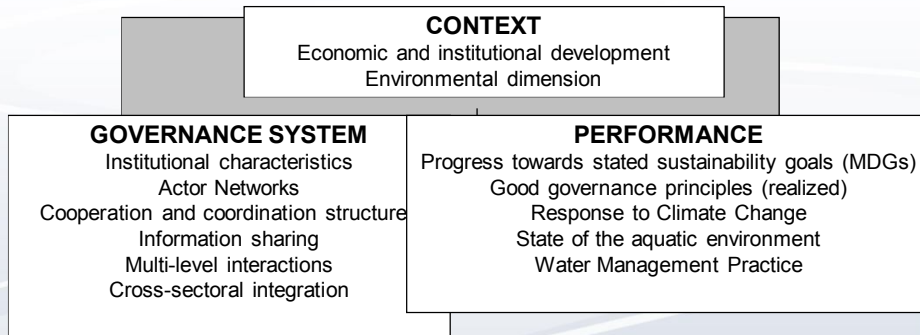
How does the performance of water governance systems depend on their characteristics and the context in which they are embedded?

Projects & Case Studies

Synthesis of results from 7 Projects: CABRI-Volga, NeWater, Brahmattwinn, ASEM WaterNet, WETwin, TwinBas, Twinlatin



Framework of Analysis for Diagnostic Approach



.... analyse how certain characteristics of a water governance system influence its performance and how this is affected by the context in which the system is embedded

Twin2Go

Different Methods for Comparative Analyses Based on Hypotheses

- 1. Qualitative examination of hypotheses**
 - Case-sensitive: case studies clustered in 3 groups - supporting, neutral, contradicting
- 2. Quantitative statistical modelling**
 - Regression and correlation methods
- 3. Fuzzyset Qualitative Comparative Analysis (fsQCA)**
 - Focus on ideal types of regime characteristics

Empirically Confirmed Regime Configurations

	Polycentric	Fragmented	Centralized Rent Seeking
Distribution of formal power	<i>High</i>	<i>High</i>	<i>Low</i>
Multi-level distribution of functions and resources	<i>High</i>	<i>High</i>	<i>Low</i>
Coordination vertical	<i>High</i>	<i>Low</i>	<i>Low</i>
Coordination horizontal	<i>High</i>	<i>Low</i>	<i>Low</i>
Performance	<i>High</i>	<i>Low</i>	<i>Low</i>

Some Insights

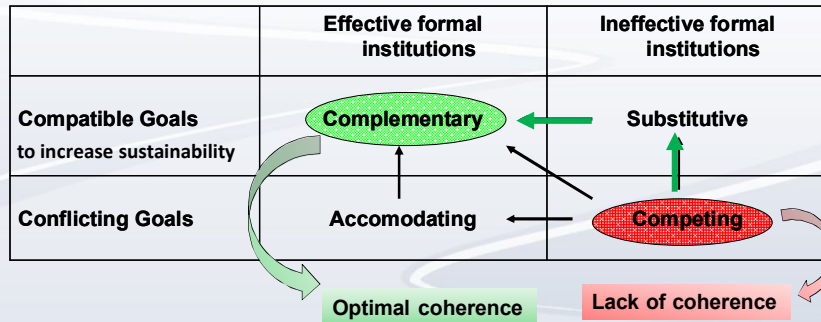
- *Advanced climate change adaptation strongly related to **polycentric governance** and innovative ways for dealing with uncertainty*
- *Efforts towards decentralization seem often to lead to fragmentation rather than polycentric regimes*
- *Transfer of **general guiding principles** and good practices for implementation that still **can be tailored to context***
- *Central role of institutional development (CPI) - more important than economic development (GDP) for both high and low performance*

The Role of New Modes of Coordination in a Networked Society

What is Required for Transformative Change?

- **Effective links between informal settings and formal policy processes**
- **Polycentric structures with flexible, effective coordination across sectoral and administrative boundaries**
- **Combination of governance modes (Markets, Bureaucratic Hierarchies, Networks)**
- **Continuity - change takes place on time scales of years – decades**

Building Transformative Capacity



Modified from Helmke and Levitsky, 2003

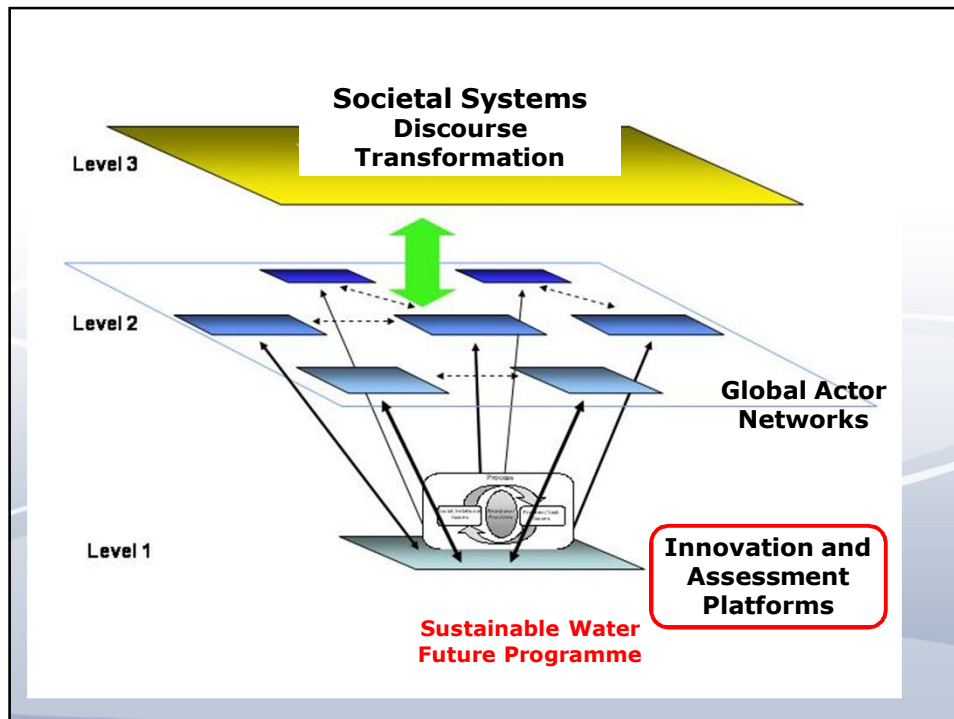
Engaging Civil Society in and Building Capacity for Monitoring at and across Different Levels

MONITOR

- ▶ Achievement of SDGs (Sustainable Development Goals)
- ▶ Meeting of national targets – water security
- ▶ State of the environment
- ▶ Compliance with good governance principles
- ▶ Development of meaningful indicators

Global Networks for Knowledge Generation and Innovation

- ▶ Global exchange on innovation at local and regional scales
- ▶ Knowledge generation and exchange on implementing SDGs
- ▶ Global data base on water governance and systematic comparative analyses to provide foundations for a diagnostic approach



***Thank you for your
attention looking
forward to
dicussions!***

References

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