

Institutional Dynamics & Adaptive Resource Management

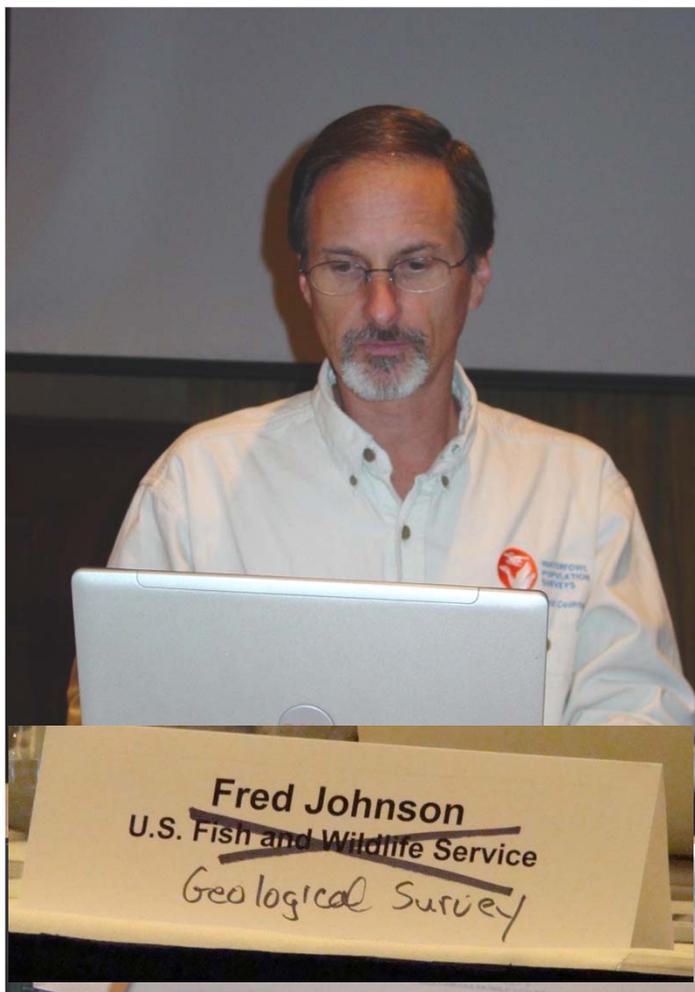
ALC3176 - Adaptive Management:
Structured Decision Making for Recurrent Decisions
Chapter 11

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Institutional Dynamics & ARM

“Adaptive management has been more influential, so far, as an idea than as a practical means of gaining insight into the behavior of ecosystems utilized and inhabited by people.”

Kai Lee 1999

Outline

- Institutional dynamics:
opportunity in crisis
- Hitting the wall:
opportunities missed
- Laying siege:
catalysts for change



Institutional dynamics

- Institutions...

- are structures and mechanisms of social order and cooperation governing the behavior of a set of individuals
- are identified with social purpose – how something should be done, look, or be constituted so as to be viewed legitimate
- can take many forms depending on context: family, company, university, church, economy, government, NGOs

Institutional dynamics

- Institutional organization: **Bureaucracy**
 - Capitalist view championed by Max Weber (1864-1920)

“Bureaucratic administration means fundamentally domination through knowledge.”

“The decisive reason for the advance of the bureaucratic organisation has always been its purely technical superiority over any other form of organisation.”
 - Defining characteristics:
 - Well-defined division of labor
 - A personnel system with consistent rules
 - A formal hierarchy among offices and participants
 - standardized procedures (rule-following) that dictate the execution of most or all processes

Institutional dynamics



- Institutional organization: **Adhocracy**
 - Championed by Alvin Toffler (1928-) and Henry Mintzberg (1939-)
 - Defining characteristics:
 - Roles not clearly defined
 - Specialists are grouped in functional units for housekeeping purposes, but are deployed in small interdisciplinary teams
 - Highly organic and decentralized structure
 - Low standardization of rules

Institutional dynamics



Bureaucratic degeneracy

- Overspecialization - few individuals can see the “big picture”
- “Common sense” discouraged (everything must be codified)
- “Group-think” due to loyalty, zealotry, and lack of critical thinking
- Disregard for dissenting opinions that may threaten the status quo
- Dichotomy of interests – individuals interested in pursuing the institution’s mission become dominated by those interested in maintaining the institution

Institutional dynamics



Bureaucratic degeneracy

■ *Procedural rigidity*

- as bureaucracy creates more rules and procedures, their complexity rises and coordination diminishes
- resulting in an inability to adapt old procedures to new circumstances (loss of resilience)

■ *Procedural inertia*

- decision-making slows
- or even becomes impossible in the face of non-routine situations

Institutional dynamics



Bureaucratic degeneracy

- Unanticipated surprises, resulting from, for example:
 - unexpected system behaviors/responses
 - changes in the stakeholders
 - changes in market forces

- Leading to a crisis of decision making

Institutional dynamics



Bureaucratic degeneracy

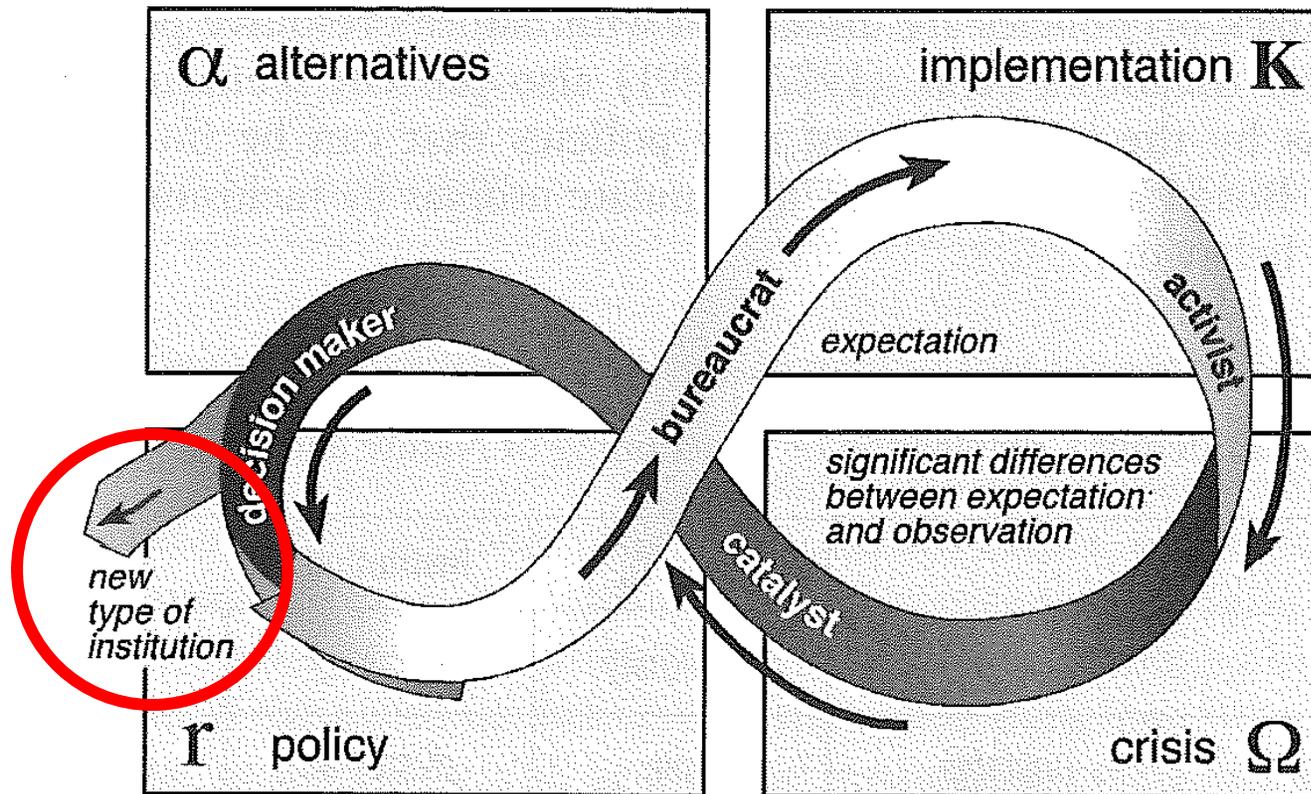
- The crisis deepens if there are:
 - disagreements about system dynamics
 - conflicts over how ecosystem services are valued
 - multiple (sometime competing) jurisdictions, which don't coincide with ecological boundaries

- Increase in litigation; courts involved in decision making

Institutional dynamics



Opportunity in crisis



Gunderson and Holling 2002

Institutional learning

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A conceptual framework for analysing adaptive capacity and multi-level learning processes in resource governance regimes

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ABSTRACT

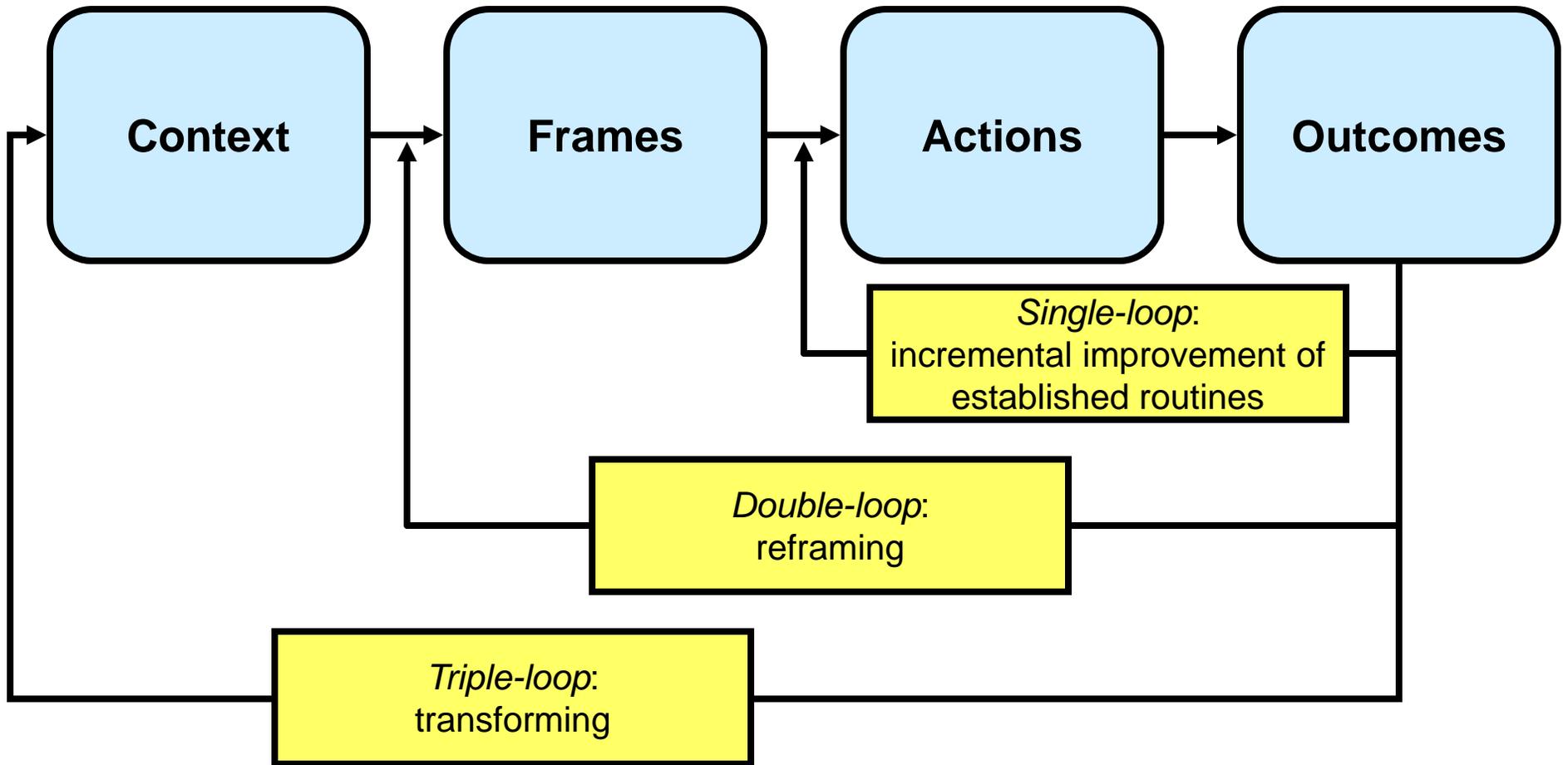
Governance failures are at the origin of many resource management problems. In particular climate change and the concomitant increase of extreme weather events has exposed the inability of current governance regimes to deal with present and future challenges. Still our knowledge about resource governance regimes and how they change is quite limited. This paper develops a conceptual framework addressing the dynamics and adaptive capacity of resource governance regimes as multi-level learning processes. The influence of formal and informal institutions, the role of state and non-state actors, the nature of multi-level interactions and the relative importance of bureaucratic hierarchies, markets and networks are identified as major structural characteristics of governance regimes. Change is conceptualized as social and societal learning that proceeds in a stepwise fashion moving from single to double to triple loop learning. Informal networks are considered to play a crucial role in such learning processes. The framework supports flexible and context sensitive analysis without being case study specific.

First empirical evidence from water governance supports the assumptions made on the dynamics of governance regimes and the usefulness of the chosen approach. More complex and diverse governance regimes have a higher adaptive capacity. However, it is still an open question how to overcome the state of single-loop learning that seem to characterize many attempts to adapt to climate change. Only further development and application of shared conceptual frameworks taking into account the real complexity of governance regimes can generate the knowledge base needed to advance current understanding to a state that allows giving meaningful policy advice.

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Institutional learning



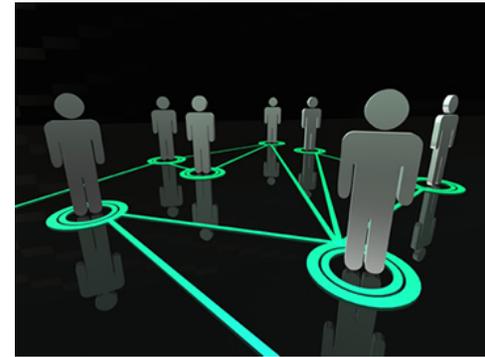
high

uncertainty

low

Institutional learning

- Single-loop learning
Are we doing things right?
- Double-loop learning
Are we doing the right things?
- Triple-loop learning
Who has the right (or the power)?



Characterization of learning cycles

	Single loop: <i>Are we doing things right?</i>		
Uncertainty			
Actors			
Institutions			
Governance			

Characterization of learning cycles

	Single loop: <i>Are we doing things right?</i>		
Uncertainty	Reducing uncertainty		
Actors	Independent communities of practice		
Institutions	Not called into question		
Governance	No change in relative dominance		

Characterization of learning cycles

	Single loop: <i>Are we doing things right?</i>	Double loop: <i>Are we doing the right things?</i>	
Uncertainty	Reducing uncertainty	Managing uncertainty and risk	
Actors	Independent communities of practice	Cross-networking	
Institutions	Not called into question	Established routines called into question and/or reinterpreted	
Governance	No change in relative dominance	Emergence of bottom-up processes	

Characterization of learning cycles

	Single loop: <i>Are we doing things right?</i>	Double loop: <i>Are we doing the right things?</i>	Triple loop: <i>Who has the right?</i>
Uncertainty	Reducing uncertainty	Managing uncertainty and risk	Decision-making under irreducible uncertainties
Actors	Independent communities of practice	Cross-networking	Changes in network boundaries and connections
Institutions	Not called into question	Established routines called into question and/or reinterpreted	Existing institutions change or new ones added
Governance	No change in relative dominance	Emergence of bottom-up processes	More diverse governance structures

Institutional adaptation



A nurturing environment

- Active and ongoing engagement of stakeholders
- A melding of management & research
- Open acceptance of uncertainty and risk
- Encouragement of innovation
- Active and ongoing communication within and beyond the AM community

Institutional adaptation



A nurturing environment

- Transparency in operations and open access to information
- A relatively “flat” organizational structure and flexibility in rule making (shared decision making)
- Adequate funding, staff, and training
- Commitment to long-term goals and processes
- Strong leadership; presence of “champion(s)”

Hitting the wall: *pitfalls*



“AM project planning reveals what managers are doing, whether it works, and whose interests it serves.”

Kai Lee 1999

Hitting the wall: *pitfalls* (1)



- AM often becomes a perpetual planning exercise because:
 - Reluctance to accept accountability or share decision-making
 - Modeling becomes central focus
 - Driven by notion that more detailed analyses can eliminate uncertainties that were motivation for AM in the first place
 - Unlikely to be productive: reliance on retrospective analyses, confounding of environmental drivers, lack of sufficient contrasts in extant data, scaling issues, emergent processes

Hitting the wall: *pitfalls* (2)



- Unrealistic expectations
 - Costs can be absorbed within traditional operating budgets
 - Managers exercise efficient control over system responses and behaviors
 - Learning can occur fast and without significant system perturbations

- Lack of follow-through
 - Monitoring, learning, adapting
 - Continuing communication with, and feedback to, stakeholders

Hitting the wall: *pitfalls* (3)



- More often than not, perpetual planning, unrealistic expectations, and lack of follow-through...
- result is loss of enthusiasm for AM and, thus, for its implementation and sustainability;
- inaction (status quo) often seen as rational choice until more is “known”

Laying siege



Tips from the trenches

1. *“Brer Fox, he lay low.”* (J. C. Harris)
 - Bottom-up AM efforts are usually easier to manage: smaller scope and number of players; more flexibility in decision making
 - Top-down: more bureaucratic (perhaps legal) rigidity; higher public profile; less acceptance of transparency and acknowledgement of uncertainty/risk
 - Bottom-up efforts can avert crisis in decision-making

Laying siege



Tips from the trenches

2. Use a “skunk works” to build your weapons (uh... case).

- Assemble a core development team
- Ensure all stakeholder interests are represented
- Ensure all skill sets are represented
 - Resource managers
 - Research scientists
 - Human-dimension / communication specialists

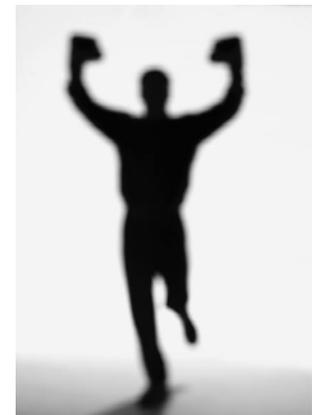
Laying siege



Tips from the trenches

3. *Find a sucker (uh... champion) who...*

- has sufficient time to devote for an extended period
- has sufficient expertise in both management and research
- Has infectious enthusiasm and *great* communication skills
- can be trusted to be impartial
- *is persistent as hell!*



Charge!

