



# Lecture 5: Civic Ecology Praxis

## Episode 2: Adaptive Management

Prof. Vicente Lopes  
Professor of Environmental Studies  
Texas State University, USA



Deutsche Bundesstiftung Umwelt





# Lecture 5 Overview

Episode 1: Collaborative Inquiry

**Episode 2: Adaptive Management**

Episode 3: Case Study



## Learning Outcomes

- You will understand the concept of adaptive management and its relevance to civic ecology praxis.
- You will learn differences between traditional management and adaptive management approaches.
- You will learn the concept of transformative change.



## Structure of the Episode 2

1. Understanding Adaptive Management
2. Promoting Transformative Change
3. Conclusion



# Adaptive Management

- An approach to governance that encompasses complexity, cross-scale linkages and social (collaborative) learning.
- Rejecting typical management approaches of 'command-and-control' which uses the best available knowledge to generate risk-averse, 'best guess' strategies, which are then changed as new information modifies the 'best guess`.
- Identifying uncertainties, and then establishes methodologies to test hypotheses concerning those uncertainties.
- Using management as a tool not only to change the system, but as an experiment to learn about the system.



# Adaptive Management

- It is concerned with the need to learn and the cost of ignorance, while traditional management is focused on the need to preserve and the cost of knowledge.
- Key features of adaptive management include (Armitage et al. 2008):
  - Focusing on the ability of systems to learn/adapt while facing shocks and long-term pressures.
  - Combining different types of knowledge to understand complex linked social-ecological systems.
  - Continual evaluation of management policies and practices against experimental outcomes.



# Adaptive Management

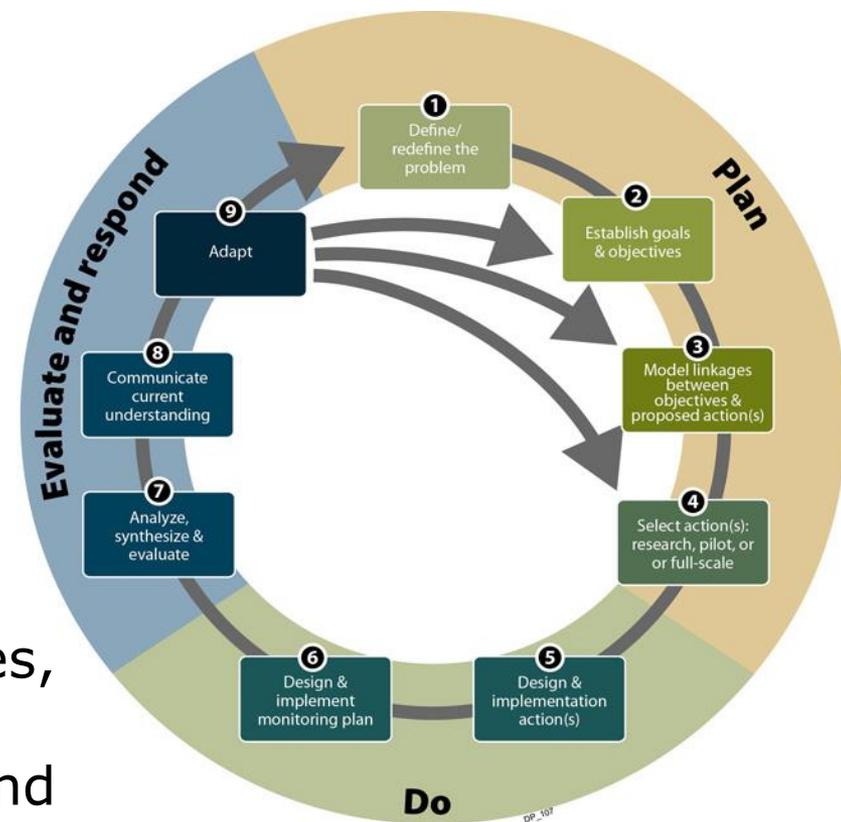
- Relying on the collaboration of a diverse set of actors.
- Applying collective knowledge to future plans.
- Maximizing flexibility to allow creativity - a crucial element when dealing with uncertainty and change.
- Developing strategies that are sensitive to feedback (both social and ecological) and oriented towards adaptability.



# Adaptive Management

Such strategies include:

- Dialogue among interested groups and actors (stakeholders).
- Developing complex, redundant and layered institutions.
- Combining institutional types, designs and strategies that facilitate experimentation and learning.

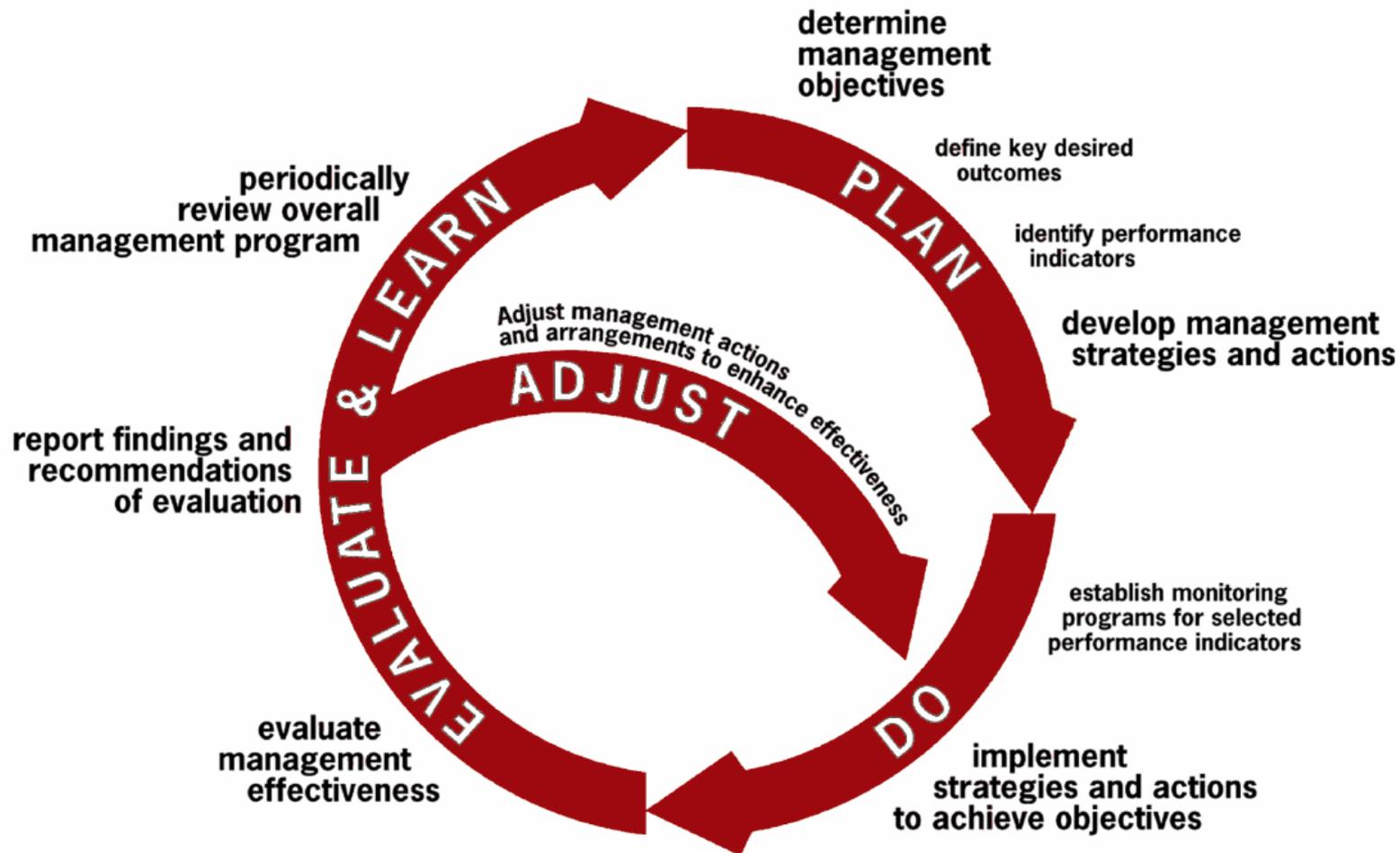


Source:

[http://www.dfg.ca.gov/erp/adaptive\\_management.asp](http://www.dfg.ca.gov/erp/adaptive_management.asp)



# Adaptive Management



Source: <http://www.cmr.csiro.au/research/mse/>



# Adaptive Management

## Traditional Management

- Goal oriented
- Controlling change
- Focusing on single variables and parts
- Causal relationships
- Interested in prediction
- Eliminating uncertainty
- Scientific epistemology
- Technocratic
- Disciplinary

## Adaptive Management

- Direction oriented
- Facilitating change
- Focusing on sets of relations & the whole
- Emergence
- Interested in possibility
- Embracing uncertainty
- Diverse epistemologies
- Participative
- Transdisciplinary



# Adaptive Management

## Effects on Systems

### Traditional Management

- Standardization
- Homogenization
- Dependency
- Externally directed
- Poor ability to respond to change
- Unsustainability

### Adaptive Management

- Diversity and innovation
- Heterogeneity/coherence
- Autonomy-in-relation
- Self-organization
- Flexibility and responsiveness
- Greater sustainability



# Conditions for Success

## 1) Well-defined resource system

Systems characterized by relatively immobile (as opposed to highly migratory and/or transboundary) are likely to generate fewer institutional challenges and conflicts, while creating an enabling environment for learning.

## 2) Small-scale resource contexts

Small-scale systems (management of a specific watershed or local fishery) will reduce the number of competing interests, institutional complexities, and layers of organization.

Source: Armitage et al (2009)



## Conditions for Success

- 3) Clear and identifiable set of stakeholders with shared interests

In situations where stakeholders have limited or no connection to “place,” building linkages and trust will be problematic.

- 4) Commitment to support a long-term institution-building process

Success is more likely where stakeholders accept the long-term nature of the process, and recognize that a traditional approach to institutions or management strategies is not advantageous.

Source: Armitage et al (2009)



## Conditions for Success

- 5) Key leaders or individuals prepared to champion the process

Key individuals are needed to maintain focus on collaboration and the creation of opportunities for reflection and learning.

- 6) Openness of participants to share and draw upon a plurality of knowledge systems and sources (diverse epistemologies)

Both expert and non-expert (local) knowledge can play productive and essential roles in problem identification, framing and analysis.



## Conditions for Success

- 7) National and regional policy environment supportive of collaborative management efforts

Explicit support for collaborative processes and multi-stakeholder engagement will enhance success.

Source: Armitage et al (2009)



## Transformative Change

- Central to civic ecology praxis is the recognition that the transition to a sustainable society requires more than institutional restructuring.
- It requires a radical transformation in our beliefs, attitudes and behaviors towards the natural environment.
- Embedded in civic ecology praxis is a set of principles and tools seeking to promote transformative (constructive) personal and social change.



# Transformative Change

- According to a People's Movement Assembly held at the 2010 US Social Forum in Detroit, MI.
- Transformative change is a process through which who we are – individually or collectively – is changed so deeply that the following are altered:
  - Identity (way of seeing/thinking/reflecting upon ourselves and environment).
  - Emotions (range of feelings and reactivity).



# Transformative Change

- Embodiment (relationship and connectedness to and within our bodies and how we show up).
- Actions (behaviors, patterned responses).
- Creativity (capacity for responsiveness and ability to access resources).
- Paradigms (overall perspective and mode of operating).



## Transformative Change

- Transformation is expected to be distinct from change, to be inclined towards being irreversible.
- It happens in its own time and it cannot be undone.
- In the transformation process, one identity or self passes away and a new, radically altered one emerges.
- The new way of being is more integrated, resourceful and aligned with the natural world and the larger cosmic order within which we dwell.



# Outcomes of Transformative Change

## **Radically increased awareness, clarity and vision**

- TC is grounded in the power of a positive vision and focusing on what we want to create.
- While honoring the lessons of the past and planning for the future, its strong focus is on what is happening right now, in the present.



# Transformative Change

## **“Being the change”**

- “We must be the change we want to see happen in the world.” (Gandhi)
- We must always mirror what we seek to create.



# Transformative Change

## **Breakthroughs in ways of knowing, thinking and acting**

- “Problems cannot be solved by the same level of thinking that created them.” (Einstein)
- Irreconcilable opposites come to be seen as creative tension; what is seen as obstacles transmute into opportunities.



## Transformative Change

### **Increased ability to respond from a place of vision and compassion rather than self-interest**

- Inviting us to greater compassion, trust and care for each other and the rest of life.
- While embracing the importance of reason, we must equally engage the heart: our deepest aspirations, what we care most deeply about, what we love.



# Transformative Change

## **Shifting from control to participation**

- Being less an attempt to control life and much more a participant in the dance of dynamic interaction with life.
- Learning to temper control with “letting go” of what cannot be controlled.
- Working in harmony with the flow of life, fully participating and moving in the world.



## Conclusion

- Adaptive management is an approach to governance of social-ecological systems integrating collaborative decision making, shared learning, adaptability, renewal and transformation.
- Drawing explicit attention to learning (experiential and experimental) and collaboration (vertical and horizontal), it seeks to improve our understand of, and ability to respond to, complexity, uncertainty and change.



## Exercises for Self-Study

1. What are the main differences between traditional and adaptive management and how they affect social-ecological systems?
2. How does adaptive management cope with complexity, uncertainty and change?
3. What is the goal of transformative change in civic ecology praxis?