



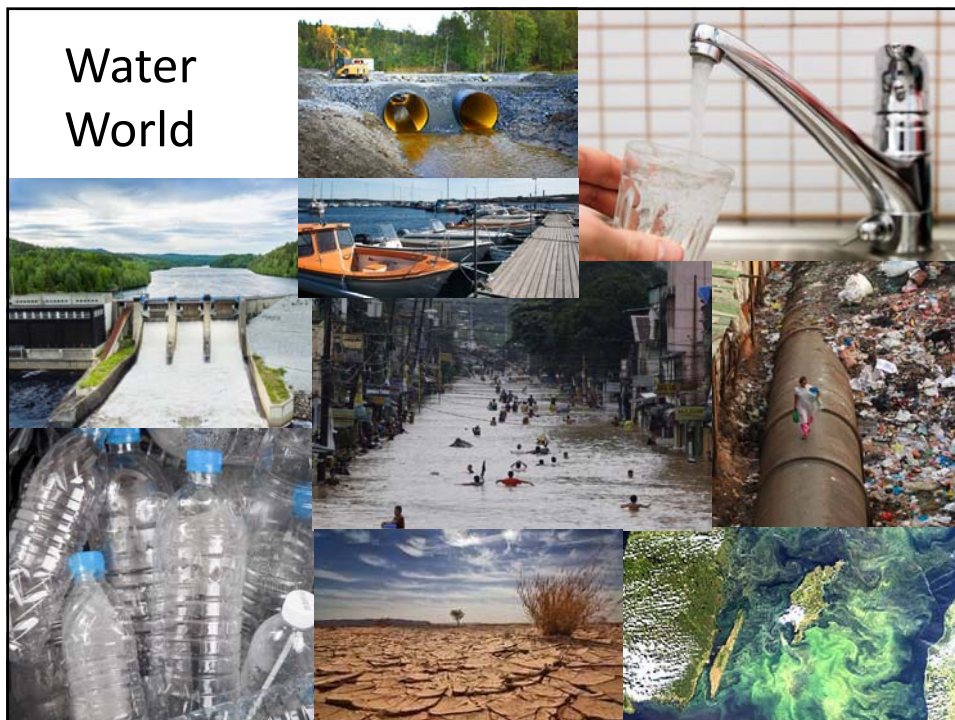
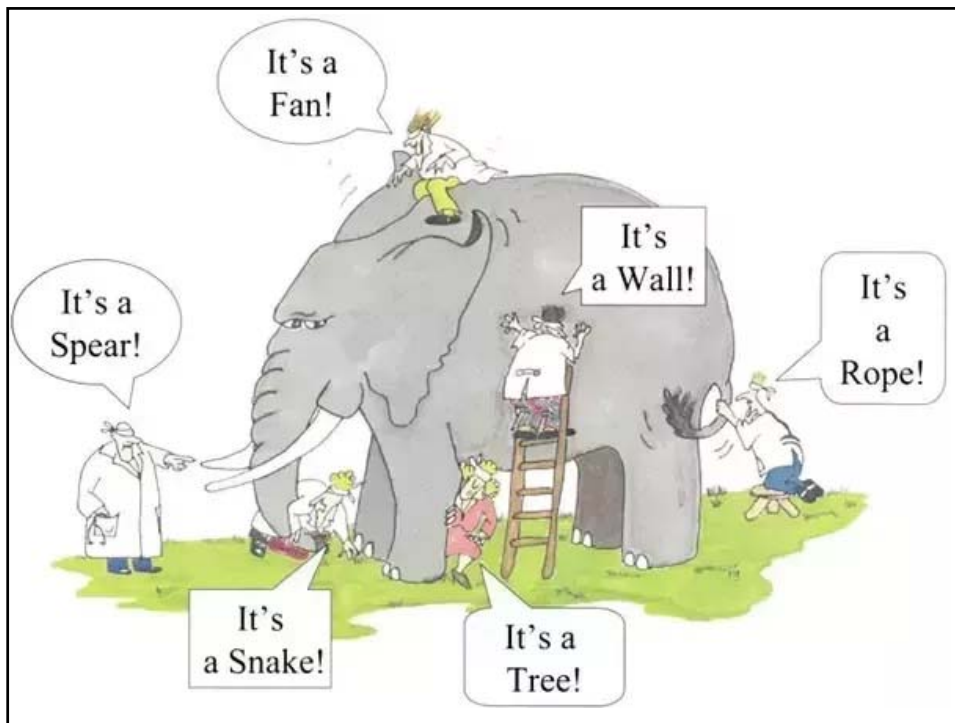
Wicked Waters Potentials and needs for collective learning

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Rene Descartes, 1596-1650





A COMPLEX WORLD

Constant slow and fast changes
that inhibit or amplify each other



Emergent properties (1+1=3)
Cross-scale interactions

Uncertainty requires an ADAPTIVE APPROACH

ANTICIPATE

PLAN FOR

ACT UPON

LEARN FROM

CHANGE



Wicked problems

Climate change

Biodiversity degradation

Peak phosphorus

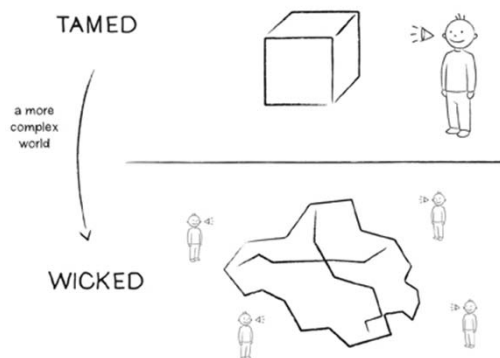
Food security

Water security

Public health

Difficult to define
Controversial
No fixed solutions – innovation
is needed
Collaboration is necessary

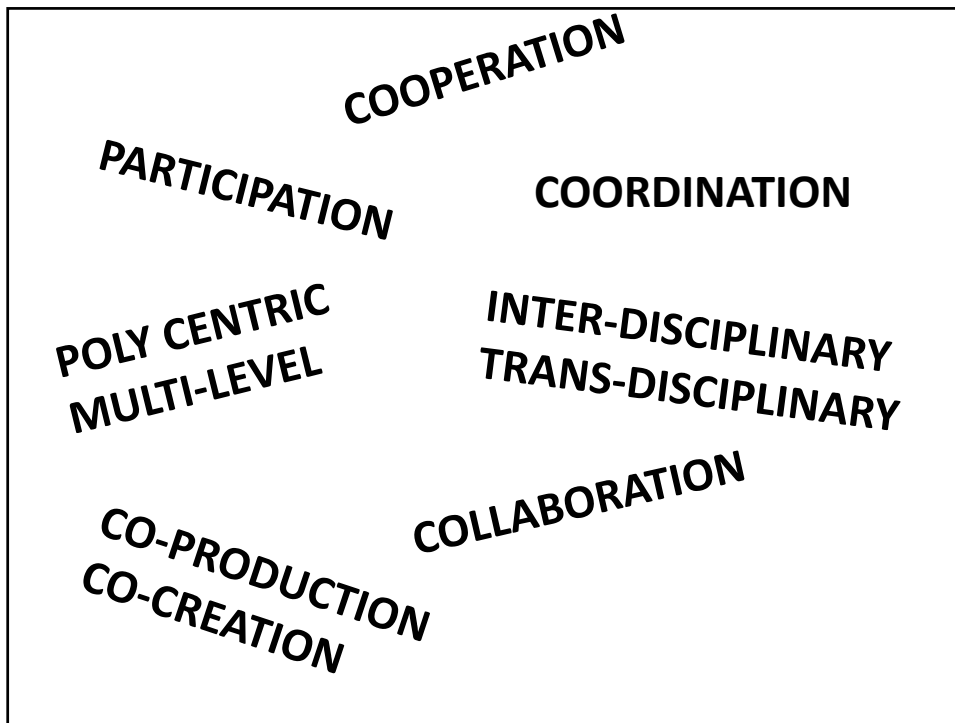
Wicked problems



From government to governance



Where do decisions take place really?



Water Saving Challenge Project - complexity of purposes

Working with the complexity "within the box"

Identifying elements
Connecting the elements

→ system thinking – system analysis – system understanding

Individual learning/Collaborative learning



Connecting the "boxes"

- Telling, sharing
- Comparing system stories
- Collective/social learning
- Creating community of practice



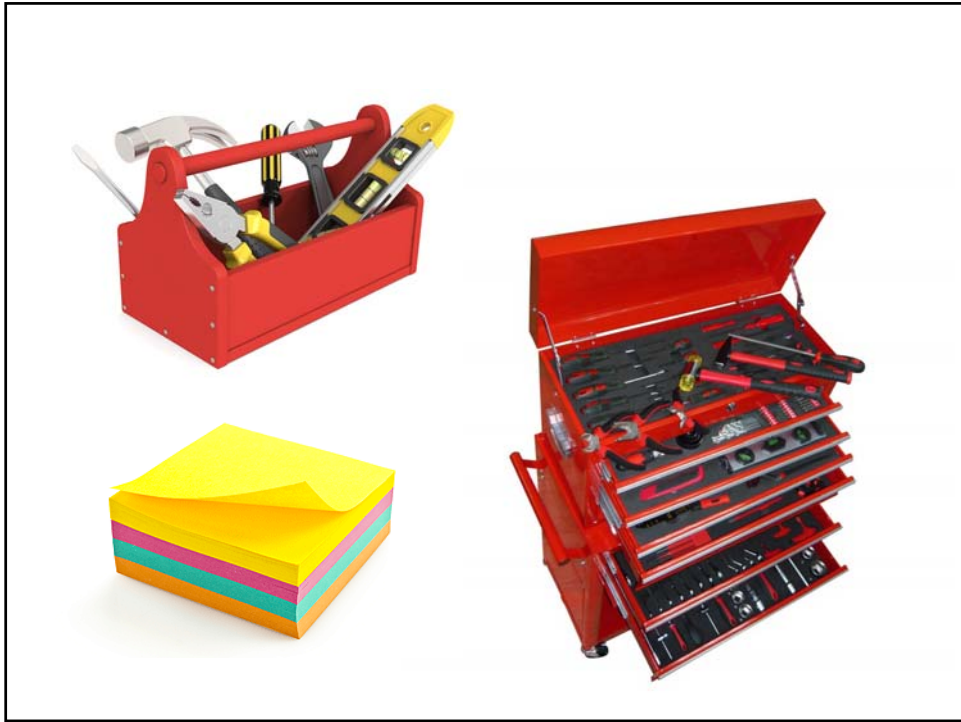
From lab to mainstream - the upscaling challenge

Emergent issues while creating and maintaining space for **societal learning**...

- ? Ownership of problem, process, outcomes and continuation
- ? Sustainability defined through interaction
- ? Power relations, imbalances, group dynamics
- ? Diversity of expectations, learning/method styles
- ? Validity and reliability of process and outcomes
- ? Legitimacy of process
- ? Action for change



Wittmayer and Schöpke 2014, Lang et al. 2012





Collective learning

Demands time, listening and long-term platforms

Embracing and appreciating diversity

Importance of connectors

abstract – concrete

between communities of practice





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