The Battle to Frame Water Security

Water security and competing discourses panel
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Mark Zeitoun

Water-society-climate challenges are *complex*

Complexity derives from
- *complicated* biophysical and social processes (e.g. interaction between carbon, nitrogen and water cycles, two-way relation between human use of water and cc (especially economic processes), etc)

- *uncertainties* in biophyscial and social systems (will there be a revolution anytime soon, or an earthquake?)

is centered around how that **complexity** is approached.

Research Approaches
- Uncertainties **reduced** through *specific* methods and assumptions
- Uncertainties **addressed** through *pluralistic* methods and assumptions

Reductive Approach

Integrationist Approach

Policy Implications
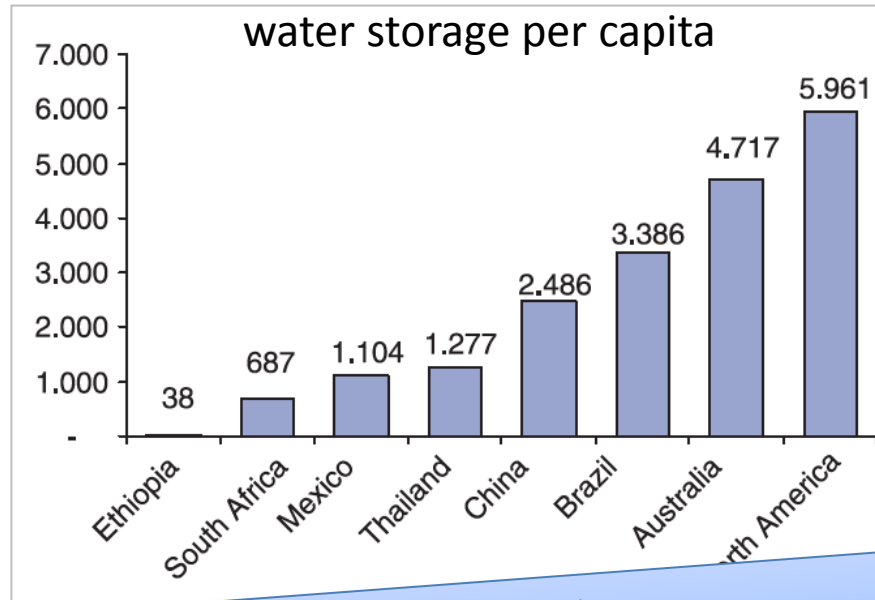→ Do we 'climate proof' or adapt?

Complexity is reduced
Interdisciplinary (engineering, hydrology, economics)
Methods: risk analysis and simple causality

- uncertainty replaced with calculable risk
- causality of GDP over-simplified
- ignorance of diversity and politics in society

The Reductive Approach (1): Reducing GDP to hydrology

water storage per capita

Grey and Sadoff 2007

Ethiopia 38, South Africa 687, Mexico 1.104, Thailand 1.277, China 2.486, Brazil 3.386, Australia 4.717, North America 5.961

Security ← certainty;
Water Security → eliminating variability

Water security is
"a tolerable level of water-related risk to society"

Grey *et al* (2013)

The **integrationist approach** to complexity (Water Security through Pluralism)
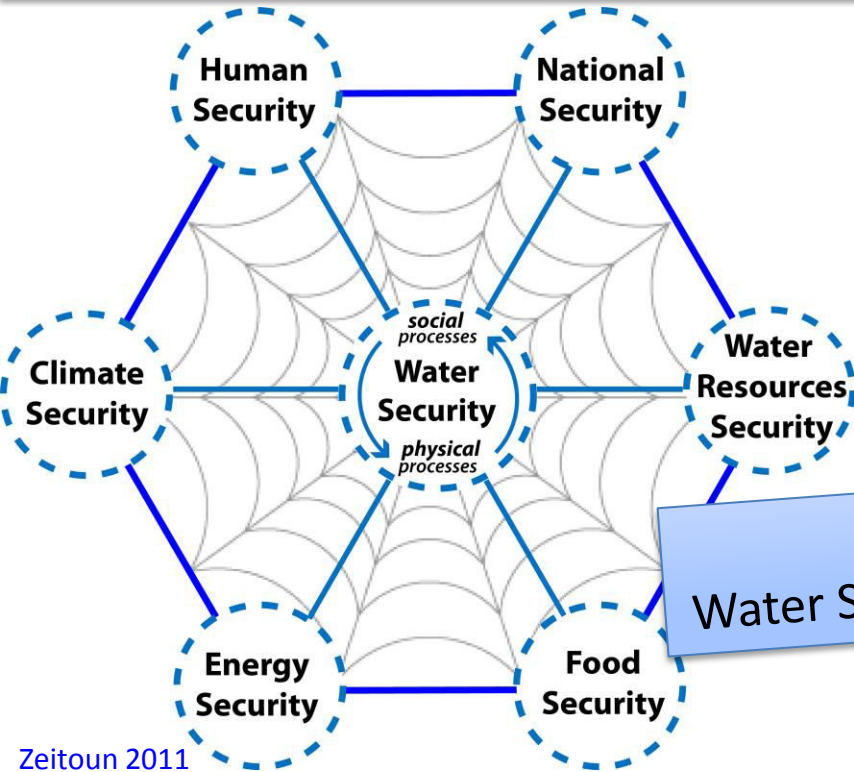
Complexity is addressed
the set of uncertainties is expanded
Draws on dozens of research streams, very interdisciplinary

- social diversity is embraced
- all sources of water (esp green water) counted
- goes beyond supply-side solutions

The **integrationist approach** (1): expanding the uncertainties identified

Zeitoun 2011

→ green water,
power asymmetries,
adaptation, nexus, etc

Security ← interdependencies;
Water Security → drawing on multiple knowledges

Boelens and Seeman 2012

water security seen as 'an intrinsically relational, political and multi-scale issue of both water access and control'

... but which message is more compelling?

Policy Implications:

Reductive approach: invest in infrastructure, institutions, information

Integrative approach: all of the above, also be sure to consider unconventional water, context specifics, and especially *people*.

This panel is an example of the **integrative approach**

Thank-you

m.zeitoun@uea.ac.uk