Disasters and the continental shelf: Exploring new frontiers of risk

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Overview

1. Problématique
2. Coastal innovation paradox
3. BP/DWH oil spill: A parable about risk
4. Coastal innovation imperative
5. Complexity, leadership & the law
6. Rethinking governance on margins
1. Problématique

- Land-sea interface = humanity’s primary habitat
- Frontier of innovation → Riches but ↑ coastal degradation & ↑ risk imperils livelihoods
- Continental shelf & slope = new frontier
- Coastal margins = CZ + Cont. shelf & slope
- Coastal margins = frontier of sustainability crisis
- Coastal sustainability = ‘wicked problem’ (Rittel & Weber, 1973)
  - Contradictory & changing requirements - difficult to recognize; apparent solution creates new problems
  - No technical, legal or ‘blueprint’ panacea
  - ‘Business as usual’ is untenable
2. Coastal innovation paradox

- Business & technological innovations ↑ human well-being but imperil coastal communities because past & current practices have transformed ecosystems that sustain coastal livelihoods

- Paradoxically, innovation is necessary to navigate a way out of ‘vulnerability trap’ that past innovation has set

- What can we learn from the BP/DWH Oil Spill?
3. The BP/DWH oil spill: A parable about risk on margins
Setting the stage for disaster
Katrina: Levee failure & the flooding of New Orleans

“It took about 200 years to wrest the city from nature”
Colten 2006. An Unnatural Metroplis: Wrestling New Orleans from Nature
BP/DWH Oil Spill

- Technological disaster with massive socio-economic & environmental ramifications?
- Stories about the failure to reconcile creation, bearing & sharing of private & public risk – rooted in history & prevailing risk appetites
- Coastal communities live with consequences
Louisiana: Climate change hotspot

USA: Louisiana

Weiss and Overpeck
The University of Arizona
Oil & the climate change story

- More than a story about science & politics
- A parable about understanding human-nature & local-global interconnections & how to reconcile short & long term interests & private & public risk, rights & responsibilities
- Lessons learned from efforts to adapt to impacts of slow onset disaster can inform vulnerable communities around world
What do disaster narratives say?

- Disaster risk is escalating in Anthropocene
- Struggle for sustainability won or lost at margin!
- “A disaster becomes unavoidable in the context of a historically produced pattern of ‘vulnerability’” (Oliver-Smith & Hoffman, 2002)
  
  “… preventing deaths and destruction from disasters pays, if done right …” (UN / World Bank, 2010)

- ‘Wicked problem’ → reframe how we make social choices
4. Coastal innovation imperative

- Result of 40 years of governance on margins?
- Transformative innovation needed to secure welfare, safety & sustainability of communities on margins
- Business & technological innovation needs to be underpinned by governance innovations that secure a prosperous & sustainable future for coastal communities
- Can the law provide clarity, certainty, consistency in pursuit of coastal sustainability?
5. Complexity, leadership & the law

Simple . Complicated . Complex
Leadership, law & disasters

- **Response:** High Danger + Low Dispute
  - Complicated: Marshall resources efficiently
  - Stabilise + buy time
  - Leadership: The ‘alpha’ male
  - Law: Command & control

- **Recovery:** Low Danger + High Dispute
  - Complex: Build safe & sustainable communities
  - Empower + build resilience
  - Leadership: The ‘nurturing’ female
  - Law: Flexible, inclusive & adaptive processes
### What is risk?

- **Risk** = measurable uncertainty (Knight 1921)

- **Uncertainty**: Nature of things is unknown & credible probabilities cannot be assigned.

- **Ambiguity**: When experts disagree over framing of options, contexts, outcomes, benefits or harms. Cannot be reduced to risk analysis, & demands plural & conditional treatment.

- **Ignorance**: Lack of knowledge, education or awareness. (After Stirling, 2010)

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Knowledge about possibilities:
- + Knowledge about possibilities
- - Knowledge about probabilities
Deliberation & risk on margins

“An overly narrow focus on risk is an inadequate response to incomplete knowledge. It leaves science advice vulnerable to the social dynamics of groups — and to manipulation by political pressures seeking legitimacy, justification and blame management.

When the intrinsically plural, conditional nature of knowledge is recognized … science advice can become more rigorous, robust and democratically accountable” (Stirling, 2010: 1029).
6. Rethinking governance on margins

Shift from government to governance

**Governance:** How key actors interact to solve societal problems through power sharing, social coordination & collective action
Building collaborative communities

- What kind of coastal community is desirable; what risks are acceptable & who should decide?

- **Deliberation** = key to enabling people to work together to define & construct the kind of community that best meets inter-dependent needs now & into the future.

- **Coastal governance** = deliberative process that is historically located & defines the *genius loci*, socio-political, cultural & ethical character of particular coastal communities.
### Enabling conditions
- Pre-event planning
- Supportive & informed constituencies
- Process agreement
- Vision & issues
- Institutional capability
- Resources & authority committed

### Implement priority actions
- Activities conform with community norms
- Implementing institutions & actors are reflective, innovative & collaborative
- Recovery investment is sustained

### Targeted outcomes
- **Physical infrastructure**
  - Jobs, business vitality & economic outcomes
- **Built environment**
- **Social outcomes**
- **Culture & heritage**
- **Marine environment**
- Etc.

### Resilient, sustainable communities
- ↓ social vulnerability
- ↑ resilience
- ↑ adaptive capacity
- ↑ sustainable livelihoods

### Outcomes on coastal margins

#### Process outcomes

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<th>Understand risk &amp; issues</th>
<th>Community oriented action</th>
<th>Community problem-solving capability</th>
<th>Collaborative communities</th>
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<td>Improved democratic attitudes &amp; skills</td>
<td>Reflexive institutional decision-making</td>
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Deliberation …

- … facilitates social learning about coastal issues, & improves democratic attitudes & competencies. It builds human & social capital crucial for cultivating enabling conditions & behavioural change necessary for implementing governance measures.
- … helps to align individual & community interests & actions; & improves decision-making capacity of governmental & social institutions.
Deliberation …

- … builds capacity of communities to solve coastal problems, reduce disaster risk & realise shared ecological, economic & socio-cultural goals & target outcomes
- … builds collaborative communities which can sustain trans-boundary dialogue, visioning, negotiation & collaboration, & navigate new pathways that lead towards sustainable coastal development
Conclusion

- Coastal margin = sustainability crisis ‘frontline’
- Wicked problem ... Uncertainty, ambiguity & surprise = new normal
- Empowering deliberation needed to manage intractable coastal conflicts
- Transformative practice of deliberative coastal governance = contested & long-term challenge
- Involves trans-boundary & intra- & inter-generational communicative actions to build collaborative communities on coastal margins