The nature and utility of adaptive capacity research

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Acknowledgements

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Objectives:

• assess the interpretation and approach to adaptive capacity research among the range of disciplines;

• critique case studies in which an attempt is made to assess adaptive capacity of a community, region or sector;

• assess the utility of the concept of adaptive capacity for decision-making on adaptation policy and planning and;

• develop recommendations to improve synergies between climate change adaptation researchers and decision makers.
Methods

• Report 1:
  o Literature review
• Report 2:
  o Online survey of researchers and decision makers
  o Key informant interviews
Respondents

- **Online survey:**
  - 39 networks were targeted
    - international research centres and institutes,
    - non-government organisations,
    - government agencies that focus on adaptations to climate change, and
    - the 8 NCCARF Adaptation Research Networks
  - 299 respondents

- **Key informant interviews:**
  - 40 key informants were invited to participate (25 researchers and 15 decision makers);
  - 19 informants agreed to be interviewed (15 researchers and 4 decision makers);
  - Respondents were from Australia (15), UK (2), USA (1) and Central Europe (1) and represented a variety of spatial scales of activity
Conceptual model of adaptive capacity

External influences on adaptive capacity

Generic determinants of adaptive capacity

Context-specific determinants of adaptive capacity

• Biophysical change
• Socio-economic change
  – Foreign-owned resources (Barnett, 2002)
  – Rapid population growth (Smith and Thomsen, 2008)

• May have positive or negative influences on adaptive capacity depending on context
  – Increased economic wealth may increase capacity to respond but contribute to adverse environmental impacts (Barnett, 2002)
  – Social and technological conditions may be enabling or constraining (Tompkins and Adger, 2004)

• Often assumed
• Relate to issues such as:
  – Scale (Vincent, 2006)
  – Space (Barnett, 2002; Adger, 2003; Pizarro, 2009)

• Relationships between determinants often not explored, or if so, usually only in a hypothetical way without ground-truthing

Daffara et al., 2009
Findings from online survey

• Little difference in the conceptualisation of adaptive capacity among researchers from a range of disciplines (anthropocentric conceptions);
• All disciplines shared the dominant belief that power/agency to create the future lies both internally and externally; and
• Only 39% of researchers believed that current adaptive capacity programs are partly effective
Usefulness of the concept of adaptive capacity among policy makers

<table>
<thead>
<tr>
<th>Choices</th>
<th>Absolute frequency</th>
<th>Relative frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very useful</td>
<td>19</td>
<td>34.5%</td>
</tr>
<tr>
<td>Useful</td>
<td>17</td>
<td>31.0%</td>
</tr>
<tr>
<td>Somewhat useful</td>
<td>11</td>
<td>20.0%</td>
</tr>
<tr>
<td>Neutral</td>
<td>4</td>
<td>7.3%</td>
</tr>
<tr>
<td>Somewhat not useful</td>
<td>2</td>
<td>3.6%</td>
</tr>
<tr>
<td>Not applicable</td>
<td>2</td>
<td>3.6%</td>
</tr>
<tr>
<td><strong>Total (policy makers only)</strong></td>
<td><strong>55</strong></td>
<td><strong>100%</strong></td>
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Findings from key informant interviews

- Findings supported the literature review regarding the proposition that trans-disciplinary research methods and diverse ways of knowing are needed to understand adaptive capacity; and
- The key informants’ comments about knowledge gaps put the greatest emphasis on the need to focus on context-specific research; as well as, the socio-cognitive factors of adaptive capacity.
# Summary of knowledge gaps

<table>
<thead>
<tr>
<th>Knowledge gaps identified from the literature review and key informant interviews</th>
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</thead>
<tbody>
<tr>
<td>• Adaptive capacity assessments.</td>
<td>• Evolving approaches and methodologies for adaptive capacity research.</td>
<td>• Understanding the generic determinants of adaptive capacity – particularly understanding individual agency within social systems.</td>
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<tr>
<td>• Adaptation option assessments – monitoring performance.</td>
<td>• Holistic approaches - methods to integrate Indigenous knowledge (past and current adaptive practices) with contemporary adaptive science.</td>
<td>• Understanding barriers to adaptive capacity – particularly related to governance and policy development.</td>
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<td>• Socio-cognitive factors of adaptive capacity across scales from the individual to the collective.</td>
<td></td>
<td>• Identifying vulnerability across scales.</td>
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<td>• Adaptive capacity building effects from action research.</td>
<td></td>
<td>• Understanding peoples (cohorts) different adaptive capacities.</td>
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<td>• Systems approaches to adaptive capacity interdependencies.</td>
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<td>• Understanding ecological systems.</td>
</tr>
</tbody>
</table>
Inter-generational equity
Intra-generational equity
Consumption
Biodiversity
Population
Poverty
Pollution
Water
Globalisation
Waste
Intra-generational equity
“As for the future, your task is not to foresee it but to enable it”

Antoine De Saint-Exupery