Integrating Adaptation Strategies into Post-Disaster Recovery: Lessons from Asia-Pacific Countries

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Collaborative Research Project
“Climate Change Adaptation in Post-Disaster Recovery Processes: Flood-Affected Communities in Cambodia and Fiji”

Project Partners
University of Auckland, New Zealand
University of the South Pacific, Fiji
Royal University of Phnom Penh
Ministry of Rural Development, Cambodia
Ministry of Environment, Cambodia
University of Western Australia
University of Sydney, Australia

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Ba River Catchment, Viti Levu, Fiji
Prek Prasob, Kratie Province, Cambodia
Overall project goal: Determine the various factors that can enhance or constrain resilience and adaptive capacities of flood-disaster-affected communities in a changing environment.
Conceptual Framework

- Diversification
- Mobility
- Market Exchange
- Community Pooling
- Storage

External Pressures

- Climate-Related Natural Hazards
- Hydropower Development
- Livelihood Security
- Water Security
- Energy Security

Extractive Industries (logging, mining)
## Adaptation Strategies in Post-Disaster Contexts

<table>
<thead>
<tr>
<th>Mobility</th>
<th>Storage</th>
<th>Communal pooling</th>
<th>Diversification</th>
<th>Market Exchange</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moving homes</td>
<td>Water, food, firewood</td>
<td>Resource &amp; labour pooling</td>
<td>Agricultural diversification</td>
<td>Selling alternative produce</td>
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<td>Moving fields</td>
<td>Household items</td>
<td>Infrastructure pooling</td>
<td>Asset and skill diversification</td>
<td>New product exchange</td>
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<tr>
<td>Labour mobility, multi-local livelihoods</td>
<td>Savings (money, livestock)</td>
<td>Information &amp; knowledge pooling</td>
<td>Consumption choices, household diversification</td>
<td>Buying insurance</td>
</tr>
</tbody>
</table>

Source: Adapted from Agrawal and Perrin (2008); expanded with ideas from Lucy Benge and Carl Middleton
Methodology

Ba, Fiji
- Unstructured discussions with community members in Votua, Nawaqarua, and Navala
- 55 semi-structured interviews at household level (3 ½ years after 2012 flood)
- 50 individual journals with disaster narratives (5 months after Cyclone Winston 2016)

Kratie, Cambodia
- Unstructured discussions and semi-structured interviews with commune leaders and community members in Phrek Prasob district including Chroy Banthey, Saub, Phrek Prasob, and Koh Tasuy communes
- Participatory hazard mapping in 5 villages
- 13 focus groups using Q-sort methodology
<table>
<thead>
<tr>
<th>Q</th>
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<tbody>
<tr>
<td>5. Villagers do not support each other very much during floods and droughts.</td>
<td>6. Some villages have insurance coverage against disaster events.</td>
<td>7. The government does not need to take any action in our community to manage floods.</td>
<td>8. We do not need to change our existing and harvesting time to cope with flooding.</td>
<td>9. In the case of flooding, we move our farm animals and other valuable items to higher ground.</td>
<td>10. The government needs to help us when we suffer from a drought.</td>
<td>11. Following disasters, many villagers seek work outside the village to cope with the hot weather.</td>
<td></td>
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Example: Q-sort with women’s group in Thma Reab village
Adaptation Strategies to Floods and Droughts

**Strategy**

- **Short-term mobility**
- **Storage**
- **Mobility/Diversification**

**Q-Sort Statements**

"In the case of flooding, we move our farm animals and other valuables to higher ground."

"Before the flood arrives, we store enough food and water in our houses."

"Following disasters, many villagers seek work outside the village to cope with the losses."

"The government needs to help us when we suffer from a drought."

"Drought is our major concern, as we cannot cope with it by ourselves."

(FGD in Deidos Krom village)

**Number of focus groups**

- Agree strongly/very strongly

<table>
<thead>
<tr>
<th>Number of focus groups</th>
<th>0</th>
<th>5</th>
<th>10</th>
<th>15</th>
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<tbody>
<tr>
<td>Q-Sort Statements</td>
<td><img src="image1.png" alt="Image of cow" /></td>
<td><img src="image2.png" alt="Image of storage tank" /></td>
<td><img src="image3.png" alt="Image of village" /></td>
<td><img src="image4.png" alt="Image of dried land" /></td>
</tr>
</tbody>
</table>
Socio-Economic Differentiation through Disaster Adaptation

Better-off households can build higher homes

Better-off HHs can buy land elsewhere

Better-off HHs can build refuge areas for livestock

Communal refuge area in Phrek Prasob commune
Findings – Fiji

Votua (Coastal Community) – After the Flood 2012

Recovery and Adaptation

May 2016
Findings – Fiji

Adaptation to Flood Situations (from individual interviews, Nov 2015)

- Build two-storey houses
- Store food, water and fuel
- Plant more tree crops around the houses (breadfruit, papaya, banana, coconut as post-flood food)

Preparations for the Next Cyclone (from individual journals, July 2016)

- Store food, water and fuel
- Tie the house and roof with ropes
- Cut back all surrounding trees
Findings – Fiji

Relocation as Adaptive Strategy and Matter of Choice?

- Planning for 'relocation'
- Considered 'relocation', but were restricted by various factors (lack of land, decision of elders, housing, finance, lack of job opportunities, sense of belonging)
- Mentioned 'relocation', but were opposed to the idea (cultural ties with the land, history, livelihood needs)
- Did not mention 'relocation' as a strategy

Data from semi-structured interviews in 28 households in Votua (Nov 2015)
Classifying disaster response and climate adaptation strategies as ‘appropriate’, ‘successful’ or ‘maladaptive’ can be problematic

- due to the complexity of multi-risk environments and related trade-offs between adaptation strategies;

- because of diverse and value-based assessments of ‘risk’ (e.g. cultural security and sense of place vs physical security and risk of space);

- as adaptation of some actors may exacerbate the risks for others (‘risk redistribution’).

Adaptation (or maladaptation or lack of adaptation) does not always mean that the action (or inaction) is taken voluntarily

Need to understand resilience and adaptation relative to a very localised cultural context
Follow the project on www.ClimateChangePlus.net