Climate change and urban planning in Southeast Asia

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Belinda Yuen and Leon Kong

Context

• 11 countries
• 4.5 m sq km
  – 3.1% of world’s land area
• 560 million population
  – 8.6% of world’s population
  – 38.6% lives with <USD2 a day
  – 38% live in urban areas
  – 28% of these live in slums
• Rapid urbanisation, rising energy demands, environmental degradation are major challenges
Questions explored

- Desktop review of the state of climate change research and policy in SE Asia
  - the challenges, knowledge gaps and promising practices with focus on urban planning interventions to increase SE Asian cities’ resilience to climate change

Region at risk

- Global warming and climate change challenge is real and urgent in SE Asia
  - SE Asia contributed 12% of world’s total GHG emissions in 2000
  - Land use change and forestry contributed 75% of SE Asia’s GHG emissions in 2000
The risk factors

- SE Asia one of the most vulnerable regions to climate change
  - Long coastlines
  - High concentration of population and economic activities in coastal areas
  - Heavy reliance on climate sensitive sectors eg agriculture, forestry, coastal and marine resources

If global climate modeling is correct,

<table>
<thead>
<tr>
<th>Climate change impacts</th>
<th>Brunei</th>
<th>Cambodia</th>
<th>Indonesia</th>
<th>Lao PDR</th>
<th>Malaysia</th>
<th>Myanmar</th>
<th>Philippines</th>
<th>Singapore</th>
<th>Thailand</th>
<th>Timor-Leste</th>
<th>Vietnam</th>
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</thead>
<tbody>
<tr>
<td>Sea-level rise &lt; 30 cm</td>
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<td>✓³</td>
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<tr>
<td>Sea-level rise 30-50 cm²</td>
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<td>Sea-level rise &gt;50 cm</td>
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<td>Temperature rise &lt;2°C²</td>
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<td>Temperature rise 2-4°C³</td>
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</tbody>
</table>

Economic growth is top priority

- Sustainable development remains a critical urban challenge
- Most SE Asian countries do not have much action on climate change and GHG emissions
<table>
<thead>
<tr>
<th>Climate change actions</th>
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<th>Cambodia</th>
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<tr>
<td>Ratification of the 1997 Kyoto Accord to the 1992 United Nations Framework Convention on Climate Change</td>
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<td>National climate change strategy or actions plan</td>
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<td>National climate change committee or inter-agency task force</td>
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<td>Green building movement</td>
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<td>Green neighborhood</td>
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<td>Eco-city planning</td>
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Source: Country, city council, renewable energy and green buildings movement websites.
Key Results

• Knowledge gap is real
  – Education and research on planning for climate change is urgently required
  – Case for sustainable city research is strong and fast emerging as an important agenda

• Urban research needs to break new ground, refocus on interdisciplinary economic, social, technological/environmental issues of sustainable city, and seek holistic, integrated, multi-disciplinary solutions to the urban and climate challenges of Southeast Asian cities

Policy consequences

• Climate change could seriously hinder S E Asia sustainable development and poverty reduction efforts

• Combating climate change requires urgent action on both adaptation and mitigation
  – Reduce emissions from deforestation and degradation, encourage afforestation and reforestation, better forest management, better land use and farm management
Recommended future research

- Mainstreaming of climate issues into national strategies and development planning is crucial
- Urgent need to strengthen institutional capabilities
- Proper modalities to be developed to monitor plan implementation and ensure continued relevance