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🌐 **Case Study 2.0.2**

Vulnerability and Risk Assessments in the ACCCRN Cities

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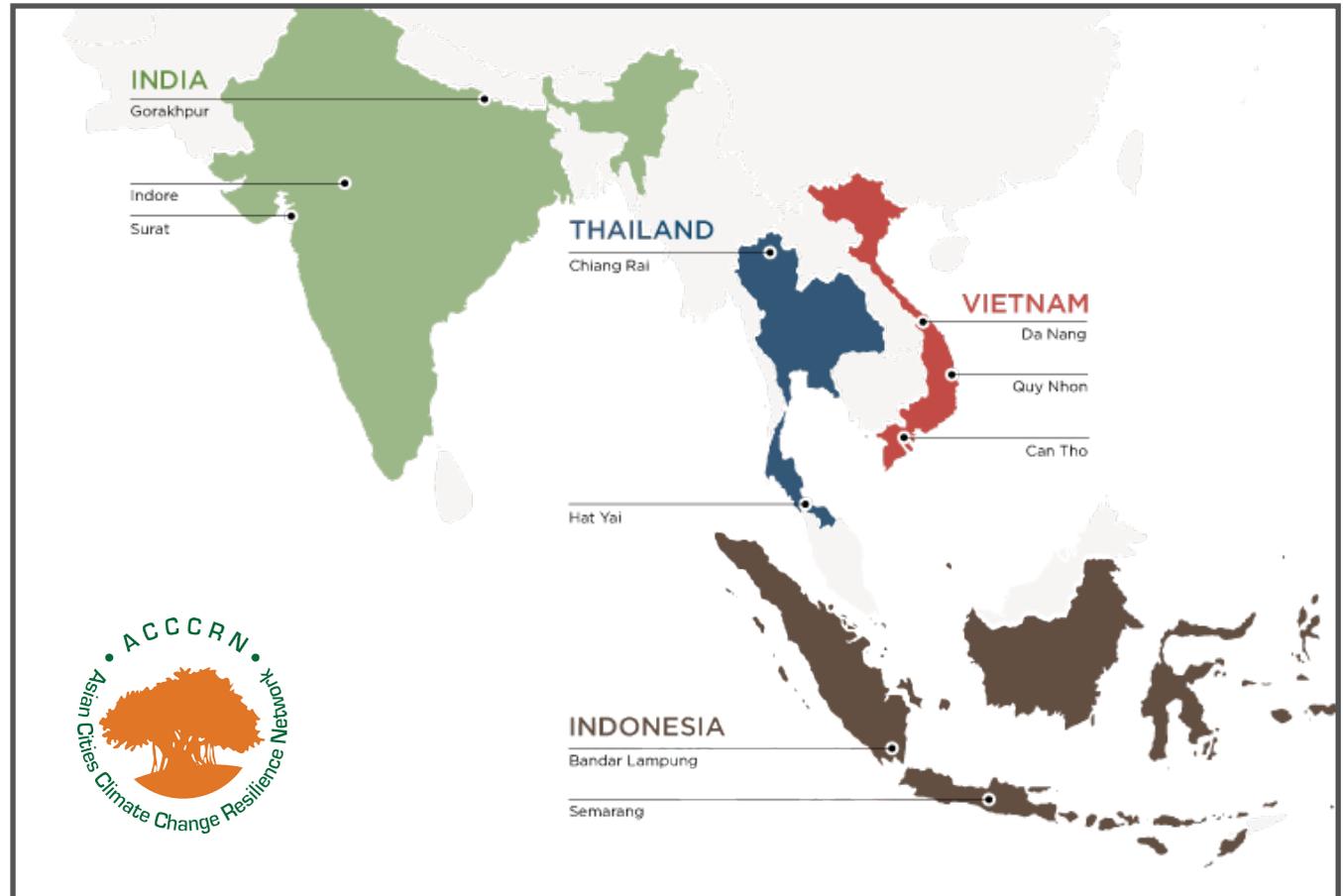
In the Asian Cities Climate Change Resilience Network (ACCCRN) project, though there were common elements in all ten ACCCRN cities, each city implemented vulnerability assessments in a slightly different way. Nonetheless, there were enough similarities to identify key factors that contributed to successful completion of the vulnerability assessments and application of the assessment findings to ongoing resilience planning.

The most critical element of the ACCCRN vulnerability assessments were that the findings, and the process of undertaking the assessment itself, were linked to adaptation planning aimed at reducing vulnerability and enhancing resilience. In the ACCCRN cities, the vulnerability assessments were reviewed as soon as they were completed with the goal of identifying next steps, gaps, and policy and planning implications. Without this translation into action, a vulnerability assessment alone will do nothing to reduce city vulnerability.

Beyond that, the primary goals in vulnerability assessment implementation in all of the ACCCRN cities were:

- To select methods for the vulnerability assessment with which the team was comfortable and that were feasible given the human, financial, and time resources available;

- To create a process that was flexible and iterative in order to enable the cities to pursue priority issues that emerged; and

- To help city officials, stakeholders, and residents get a preliminary understanding of climate change implications in their cities, identify additional areas for more intensive analysis, and provide some basis for considering how interventions could target vulnerable groups and areas in order to enhance resilience both of vulnerable groups and the overall city.

All ten cities completed vulnerability assessments and all but one city, where the assessment was poorly structured and consequently generated no new knowledge, generated new information that was subsequently used in developing their city resilience strategies.

Shared learning dialogues, described in Set 1.3 were central to building urban climate resilience in the ACCCRN cities. On one hand, designing and undertaking the vulnerability assessment required interaction between climate scientists, local experts knowledgeable in the function of urban systems, decision-making actors, and marginalized agents whose vulnerability might not be recognized by others. The iterative interaction among these groups and their different knowledge sets was crucial to building a common

understanding of potential urban vulnerabilities to climate change. On the other hand, design of resilience-building actions also required iterative engagement between technical experts, system users, and marginalized groups who need access to those systems to build their capacities. The SLDs allowed stakeholders to expand on issues that arose in both the design phase and assessment process, facilitating the iterative process of planning for resilience.

None of the ACCCRN cities other than Bandar Lampung and Semarang, in Indonesia, attempted to conduct risk assessments, and in Indonesia the risk assessments ultimately were only partially used in developing the city resilience strategies. The story behind why the risk assessments were only partially used is quite useful in thinking about how to set up the process in other cities.

In Indonesia, the risk assessments were conducted by CCROM, a research center at the Bogor Agriculture University. CCROM developed a series of indices, applied at the district level, to assess vulnerability, adaptive capacity, and climate exposure. These indices were assessed both for current and projected future vulnerability and climate risk. Though this analysis was very quantitative and well thought out, in application its value to the Indonesian cities was mixed. Some of the issues the city partners flagged were:

- The cities didn't like the indicators that were selected for analysis. In part, this was because they felt some of the indicators were misleading, such as the number of educational facilities in an area, rather than the average level of education. Because the indicators were not made transparent in the document, the city team spent considerable effort to discover what was actually being measured, leading them to further lose confidence in the analysis;

- Analyses were based on national datasets, some of which the cities did not consider reliable;

- Areas currently unexposed to flooding were identified as vulnerable to future flooding, but the city team was not convinced this was realistic;

- CCCROM only minimally consulted with partners, which exacerbated confusion;

- The report writing style was academic which made it difficult for many of the city partners to understand and increased the challenges in giving feedback to CCROM; and

- Overall the results were not practical because they aggregated hazards and referred to a hazard index rather than specific hazards.

These concerns about the analysis spurred the working group to review and discuss the CCROM assessment in great detail, and as a result working group members learned a lot about what should not be done in future vulnerability assessments. Semarang and Bandar Lampung ultimately supplemented the CCROM report with other secondary sources with which they felt more comfortable, and explored development trajectories under different climate scenarios via scenario development.

This experience is described here to illustrate that thoughtful selection of working partners (in particular partners who are willing and able to work closely with city stakeholders to understand their concerns and interests), careful attention to communication, and clearly laying out expectations and definitions is necessary to assure successful results. Climate change can feel daunting to those for whom it is new, particularly when faced with technical experts who seem to fully understand all the issues. However, those technical experts are unlikely to fully understand issues of importance to individual communities, city departments, and city leaders. **It is critical that city stakeholders stay engaged and actively working with technical experts if study results are to be useful to your city.**