

insights in DRM

A Practitioner's Perspective on Disaster Risk Management in Latin America & the Caribbean

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Climate Change Adaptation Planning in Small and Medium-Sized Cities

"We are a city of floods. When we heard about the pilot adaptation initiative, we were excited to be selected as one of the cities for the study. We believe that this approach complements our medium-term, municipal development and territorial plan, which includes DRM as part of a climate change adaptation component. City planners and other stakeholders were part of the implementation process, so it enabled new communication channels to form between different actors in our city."

—City Official, Department of Environment, El Progreso, Honduras



Play slideshow to see images and captions from pilot cities².

sions for public services and infrastructure. City officials and planners are seeking knowledge of innovative and low-cost ways to identify and prioritize investments to sustain development and address climate risks.

Challenge

City planners and mayors in Latin America and the Caribbean (LAC) are witnessing higher population growth in small and medium-sized cities with populations of less than one million¹, than in large cities where numbers have stabilized or decreased in the past years. Rapid urbanization is often accompanied by spatial expansion and urban sprawl into hazard-prone areas such as floodplains and landslide-prone hillsides and mountain slopes. In cities with less than a million inhabitants, this development trend is increasing the vulnerability of new settlements to climate-related impacts such as heavy rain and storm surge.

Given that these cities account for more than half of the region's population, it is important to prepare municipal governments and city planners for climate change adaptation planning. Yet, the context for adaptation in the region's smaller cities is far less researched, and adaptation processes are not as well supported compared to the region's larger cities. According to the responses of a regional survey, these cities are also less likely to have had access to climate change adaptation (CCA) training, finance, or knowledge networks, so they have limited adaptive capacity and means to address these realities.

Although small and medium-sized cities are diverse in location, topography, and socio-economic and institutional make-up, much of them are grappling with similar challenges caused by rapid urban growth, weak capacities in urban planning and insufficient provi-

Intervention

To better understand these small and medium-sized cities' climate risks, strengthen their adaptive capacities, increase knowledge exchange, and develop decision-making resources, the World Bank Latin America and Caribbean Disaster Risk and Urban Development team implemented a multi-faceted program, as follows:

Five-City Pilot Program:

A [five-city pilot program](#)³ was established to deliver technical assistance to conduct urban risk assessments and to develop city adaptation plans. The pilot program activities included:

Case Study Selection:

Over 300 mayors and city officials across 15 countries in LAC responded to questions about their cities' development challenges and CCA priorities. Based on a set of criteria,⁴ five cities were selected: El Progreso, Honduras; Castries, Saint Lucia; Estelí, Nicaragua; Santos, Brazil; and Cusco, Peru. (See map)

Risk Assessments:

Over the course of one and a half years, the task team worked with these cities using the WB [Urban Risk Assessment](#) (URA) tool to conduct three risk assessments to evaluate their i) climate related risks, ii) institutional adaptive capacities, and iii) socio-economic capacities to adapt to climate change. The URA was selected because it provides flexibility to conduct risk assessments based on cities' financial constraints, technical capacities, and availability of risk information.

Adaptation Plans:

Based on the findings from the URA at the city level, and through a series of consultative workshops with the city planners and decision-makers, adaptation plans were developed. For each city, a *Strategic Climate Adaptation Investment and Institutional Strengthening Plan* was designed to identify priority investments and activities to strengthen institutional capacities for climate change adaptation. (See map and links to each pilot).

Findings from Pilot Survey in LAC

- a) Floods and landslides are the predominant climate hazards affecting smaller cities;
- b) Policy interventions are primary venues and urgently needed to address climate change;
- c) Main barriers to adaptation are lack of financial resources, awareness, need for hazard and risk-related data, and planning regulation.



Adaptation Guidebook:

The pilot program activities provided inputs for a regional *adaptation guidebook* for LAC that is being designed for decision-makers in small and medium-sized cities to strategically plan, prioritize, and take action to invest in climate change adaptation, with a focus on floods and landslide hazards. While still in development, a preview of its contents includes: i) climate adaptation trends and challenges; ii) risk assessment tools and case studies; iii) steps to prioritize investments; and iv) keys to implement and take action on adaptation strategies for building climate resilience in such cities.

Outcome

City officials from these pilot cities have gained a greater understanding of climate risk, and the importance of integrating disaster risk management into physical development and territorial planning. City adaptation plans serve to guide their investments and development strategies amidst rapid urban growth and climate change. Across the region, new knowledge and decision-support tools are increasing the adaptive capacities of small and medium-sized cities in LAC.

Informed decision-making in pilot cities

Municipal governments and city planners from each pilot are now equipped with *Strategic Climate Adaptation Investment and Institutional Strengthening Plans* to prioritize investments and strengthen institutions to build resilience, specifically to flooding and landslides. These strategic adaptation plans provide a tailored, investment guide for government officials to assess priorities and to determine which activities are most effective to reduce climate vulnerability and sustain economic growth. An example of the priority actions for each pilot include:

- ◆ Castries – Strengthening of city administration and municipal functions for the City Council;
- ◆ Cusco – Coordination of risk management and planning across all districts;
- ◆ Estelí – Investments in drainage, sanitation, and waste removal services and improved implementation of land use and urban planning laws;
- ◆ Santos – Integration of risk management practices, both horizontal and vertical (cross-scale);
- ◆ El Progreso – Consideration of long-term risk management planning for environmental and socio-economic conditions in rural and peri-urban regions.

Improved understanding of adaptation needs of small and medium-sized cities

Through the pilot program implementation, *three common planning themes* surfaced from city planners on how to improve climate resilience and address risks for small and medium-sized cities:

- ◆ Enhance land use planning systems
- ◆ Improve budgetary resources and mechanisms for data collection, storage and sharing
- ◆ Consolidate capacity building efforts in city level government institutions

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Map 1: Click on each pilot city to see full risk assessment results

Practical tools to perform risk assessments and prioritize adaptation investments

With the completion and dissemination of the *adaptation guidebook*, city officials and planners will be able to prioritize investments by conducting risk assessments and using analytical tools that can be tailored to their specific needs and capacities. This guidebook may also serve other regions facing similar challenges.

Knowledge, resources and tools gained by the pilot-city planners equip them to proactively address the day to day challenges of rapid urban growth and climate change impacts. Through future knowledge exchange and collaboration in the region, municipal governments can work with each other and determine key actions to build climate resilience in small and medium-sized cities.

Endnotes

- ¹ UN-HABITAT (2012). "The State of Latin American and Caribbean Cities 2012: Towards a new urban transition"
- ² <http://www.photosnack.com/FE7975B8B7A/phcfb95i>
- ³ <http://www.worldbank.org/en/results/2014/01/31/climate-change-adaptation-planning-in-latin-american-and-caribbean-cities>
- ⁴ The criteria used to select the pilots included i) survey responses; ii) regional and climate diversity among the pilots; iii) availability of climate risk-related data; iv) city officials' willingness, interest, and commitment to the initiative; and v) recommendations from World Bank LAC project teams.