

UNHABITAT CITIES AND CLIMATE CHANGE INITIATIVE NEWSLETTER

December 2012

Assessing ecosystem-based adaptation actions in Lami Town, Fiji

UN-Habitat's Cities and Climate Change Initiative (CCCI), in collaboration with the United Nations Environment Programme (UNEP) and with the expert support of the Secretariat of the Pacific Regional Environment Programme (SPREP) and Conservation International, recently helped Lami Town, Fiji to assess its vulnerability to climate change, and compare the costs and benefits of different ways to adapt.

The assessment has attracted attention, in that it offered a head-to-head comparison of traditional engineering approaches with ecosystem-based approaches to adaptation, as well as mixes of the two approaches.

As cities have begun to devise ways to adapt to climate change in recent years, interest in ecosystem-based adaptation has grown. Ecosystem-based adaptation helps to ensure that ecosystems remain healthy, allowing local populations to benefit from their services such as provision of clean water or protection from extreme weather events. Healthy ecosystems also may serve as carbon sinks. However, to date, quantitative evidence or studies of the costs and benefits of ecosystem-based approaches remain scarce.

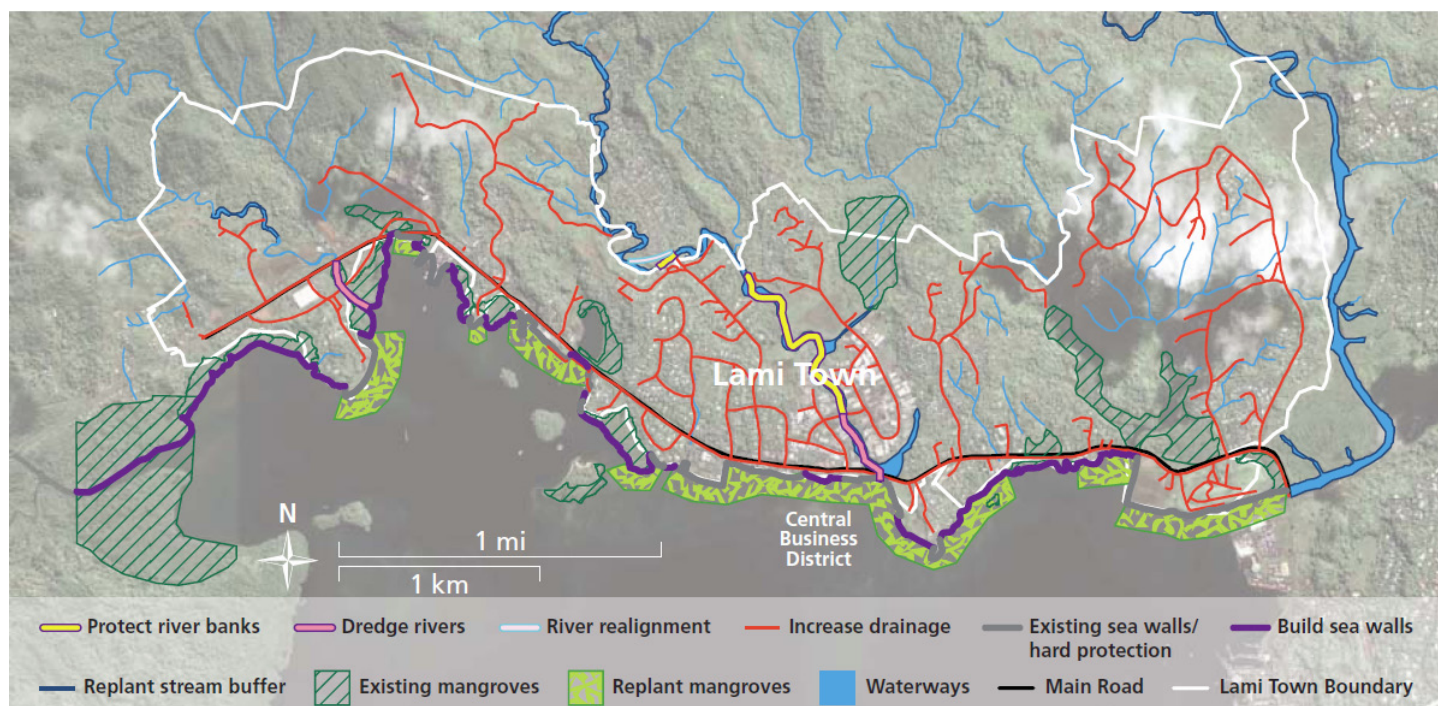
Fiji, a small island state, is highly vulnerable to sea level rise. The sea level around Fiji has been rising by approximately 6 millimetres annually since 1993.

Lami Town, the CCCI pilot city in Fiji, lies on the south east coast of Viti Levu, the main island of Fiji. As a coastal city with



Replanting mangroves, an ecosystem-based adaptation method, provides a buffer during storm events, helps to maintain good water quality, and reduces coastal erosion. ©Lami Town Council

Assessing ecosystem-based adaptation actions in Lami Town, Fiji (continued)



Adaptation options recommended for Lami Town include a mixture of ecosystem-based and engineering actions. ©SPREP

upslope areas it benefits from several natural protective resources including mangrove forests, coral reefs, upslope forests, seagrass and mudflats. Due to its location, Lami Town is primarily vulnerable to coastal, flash, and surface flooding, and shoreline, riverbank, and inland or upslope erosion.

As a follow-up to an earlier, broader vulnerability assessment of Lami Town, the present study compared taking no action to four different adaptation scenarios, to assess which scenario would be the best. The scenarios ranged from pure ecosystem-based to pure engineering adaptation options, with two scenarios involving a mix of ecosystem-based and engineering adaptation options.

In terms of specific scenarios, the study concluded that the highest cost-benefit ratio is for the pure ecosystem-based adaptation scenario, which has an assumed damage avoidance of 10 to 25%. However, the study also recognized that engineering options, while less cost-effective, may be more effective in reducing potential damages than ecosystem-based alternatives, with an assumed damage avoidance of 25 to 50%.

The study also found that, regardless of

the scenario used, any adaptation action taken would outweigh the cost of taking no action.

The estimated benefits of the adaptation actions across the scenarios range from 8 to 9.50 Fijian dollars for every dollar spent on adaptation. Benefits of the actions include avoided damages related to health costs, avoided potential damage to businesses and households, and other ecosystem services being maintained or enhanced.

SPREP recommended implementing a mix of ecosystem-based and engineering adaptation actions to effectively address Lami Town's vulnerabilities.

Lami Town's natural protective resources, including mangroves, forests, seagrass mudflats, and coral reefs, should be protected and maintained as a priority, as the most cost-effective adaptation action. Additionally, engineering actions such as bridge improvements, river bank reinforcement, river-dredging, increasing drainage, and building sea walls should be implemented in priority areas of the built area.

Finally, social and policy initiatives such as land-use regulation, land zoning, and relocation of vulnerable groups should

be included in the overall strategy as part of an integrated approach to effective climate change adaptation actions.

In Lami, findings from the study, which is still being finalized, are already making their way into stakeholder discussions regarding adaptation.

This pioneering study should also offer lessons relevant to other communities both in Fiji and beyond, as they consider different options – including ecosystem-based approaches – for adapting to climate change.

When finalized, the study will be made available via the CCCI webpage, at: <http://www.unhabitat.org/ccci>.

CCCI welcomes new cities in 2012

In the past year, the Cities and Climate Change Initiative (CCCI) has signed agreements with several new cities in Africa, Asia, and the Pacific. Having originally been initiated in four pilot cities, CCCI has strategically increased its group of participating countries and cities. Between 2008 and 2011, sixteen new countries and nineteen new cities joined CCCI. In 2012, the initiative has seen a further expansion in the Philippines and Sri Lanka, with nine and four new cities respectively. Furthermore, cities in Lao, Bangladesh and Myanmar joined the Initiative. The group of Small Island Developing States welcomed one new city from the Solomon Islands, and three new cities from Fiji.

Specific country- and city-level activities have been funded by the Government

of Norway, as well as participating cities, the United Nations Development Account, the Swedish International Development Cooperation Agency, the Australian Government Overseas Aid Program and other UN organizations.

To highlight just a few activities that are planned for the new CCCI countries and cities: in the Mozambican city of Vilankulo, CCCI will be active in the field of green and resilient buildings. In particular, the initiative aims at training stakeholders in the city on cyclone-proof buildings.

In the group of the newly joined Asian countries and cities, four Philippine cities, namely Butuan, Cagayan De Oro, Davao and Iloilo, have signed agreements with UN-Habitat on CCCI.

These partnerships will focus on local adaptation plan development and mainstreaming of climate change issues into local mandated plans, based on results from vulnerability and adaptation assessments.

For the Small Island Developing States in the Pacific, capacity building support for climate change planning and vulnerability assessment is being extended to the Solomon Islands Ministry of Lands, Housing and Survey, Ministry of Environment, and the Honiara City Council. With resource support from the United Nations Development Programme, the social vulnerability indicators are to be highlighted in the city assessment as a basis for local climate change response development. Welcome all!

Second annual Shelter Academy 2012 inspires city officials

The theme of the Shelter Academy that took place from 1 to 4 October 2012 in Amsterdam and Rotterdam, the Netherlands, was "Cities and Climate Change", with a focus on housing in rapidly growing port cities in Asia, Africa and Central America.

In many port cities in developing countries, the poor often live in the most vulnerable locations, and are threatened by sea level rise, water level fluctuations and other climate change impacts. The Academy therefore focused the training on integrating water and coastal management into the urban planning process, stakeholder involvement and decision making, and economic development with environmental equity including through the preservation of ecosystem services.

The Academy participants benefitted from case study experiences from the Netherlands in managing floods and sea level rise. They appreciated the technological advancements, resources committed and strong institutional mechanisms put in place that encompass local and national governments, and the private sector. They witnessed first-hand the city flood control techniques and the second 'Maasvlakte'- a programme to reclaim land from the sea in order to extend the port of Rotterdam.



Participants of the Shelter Academy 2012 held in the Netherlands. ©UN-Habitat

The participants' own case studies formed an important part of the Academy, with the trainers paying close attention to potential solutions for the individual cases. "I have learnt that other mayors have challenges too and that every problem has a solution. Thanks to the Academy, I will take this knowledge back and will prioritise human and financial resource mobilisation to tackle my city's lack of potable water and soil erosion challenges", declared Mr. Chale Ossufo, the Mayor of Nacala City in

Mozambique.

Participating in the Academy were mayors and other city officials from Colombia, Costa Rica, El Salvador, Indonesia, Mozambique, Namibia, the Philippines and Sri Lanka. UN-Habitat is implementing activities that address climate change and urban planning in these countries.

The Shelter Academy is an initiative of ARCADIS in collaboration with UN-Habitat particularly in support of the Cities and Climate Change Initiative.

CCCI Partners' Dialogue, 7 September 2012

The Cities and Climate Change Initiative organizing a half-day Partners' Dialogue after UN-Habitat's 6th World Urban Forum in Naples, Italy.

The meeting's objectives were to review, validate and enrich the preliminary findings of an ongoing mid-term evaluation of the Initiative. The partner's discussed options for a more robust engagement of CCCI with partners, both in terms of operational and normative activities as well as regarding project governance. A series of actionable recommendations that were proposed by the evaluators were discussed in working groups, with concrete suggestions being proposed to implement these recommendations.

Participants at the meeting included CCCI global partners, selected local and national officials, and other stakeholders from CCCI countries. Other experts and representatives from relevant organizations were also invited.

Expert Group Meeting on Assessment, Planning and Management Methodologies, 31 October to 2 November 2012

UN-Habitat organized an Expert Group Meeting (EGM) on climate change assessment, planning and management methodologies for the Cities and Climate Change Initiative in Asia and the Pacific. The EGM which was held in South Korea prior to an advanced training course for CCCI cities, discussed ways to strengthen methodologies for vulnerability assessment, climate change planning and Greenhouse Gas assessment. Working groups were formed to deliberate on the methodologies and provided valuable feedback to CCCI and its partners on improving these processes.

Planning for Climate Change Advanced Training 3 to 7 November 2012

UN-Habitat, in collaboration with the International Urban Training Centre in South Korea, recently held an advanced Climate Change workshop for local government officials participating in the Cities and Climate Change Initiative in the Asia and Pacific region.

Practitioners from cities where comprehensive climate change vulnerability assessments have been conducted were trained on UN-Habitat's methodology for developing local climate change action plans.

The training included a study tour to the Climate Change Division of the Seoul Metropolitan Government and key climate change adaptation projects.

ABOUT US

Headquartered at UN-Habitat in Nairobi, the Cities and Climate Change Initiative (CCCI) involves the participation of more than 40 cities worldwide. It targets medium-sized cities in developing and least-developed countries, and emphasizes good governance and practical initiatives for the municipalities and their citizens. The CCCI team has adapted participatory processes developed previously by UN-

Habitat so as to specifically address climate change issues within the city. A complementary set of tools is being developed to support cities in raising awareness on the impact of climate change and undertaking mitigation and adaptation activities. Since 2008, CCCI has been generously supported by the Government of Norway, the United Nations Development Account, the Cities

Alliance, the Government of Sweden and other sources of global, regional, national and local funding. Newsletters of the Cities and Climate Change Initiative are periodically published electronically. For more information, or to be added to our mailing list, contact ccci@unhabitat.org or visit <http://www.unhabitat.org/ccci>.

CCCI Cities and Countries

