

UN HABITAT CITIES AND CLIMATE CHANGE INITIATIVE NEWSLETTER

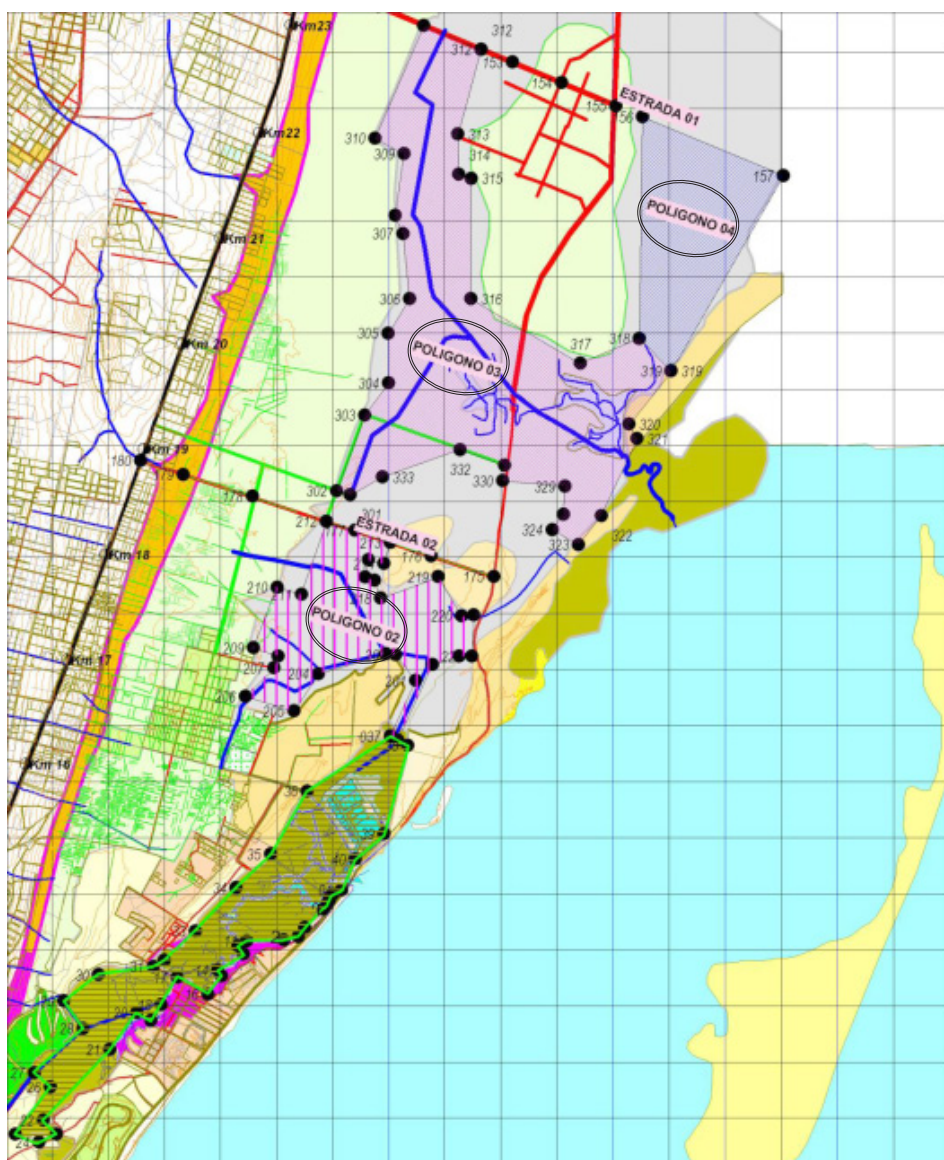
March 2013

Environmental Management Information Systems in CCCI cities

While UN-Habitat's Cities and Climate Change Initiative (CCCI) was launched in 2008, it actually builds upon the agency's previous years of experience in helping local authorities to build more sustainable cities. We try to bring forward into CCCI the best tools and practices developed under previous urban environmental projects, adapted as necessary to climate change concerns. An excellent example of such is CCCI's support to selected cities in helping them to develop Environmental Management Information Systems (EMIS).

EMIS is a decision support tool and a system for managing spatial, geo-referenced data. Among other applications, EMIS can be used to illustrate to stakeholders and decision-makers the different environmental outcomes that stem from alternative developmental decisions. Geo-referenced data layers are overlaid to form maps that help decision-makers understand the relationships between environmental resources, hazards and development activities, and the environmental implications and trade-offs involved in various development decisions. EMIS is basically a specialised type of Geographic Information System (GIS), adapted to urban environmental planning purposes at the city level.

UN-Habitat introduced EMIS to local authorities in the 1990s under two long-running programmes: Localizing Agenda 21 and the Sustainable Cities Programme. By 2006, UN-Habitat had supported more than 30 EMIS projects in 11 countries in Africa, South America and Asia. A stock-taking report on EMIS showed that this tool was generally well-received by the project cities; however the report also identified several challenges that hindered its broader expansion. Firstly many cities reported difficulties in maintaining and institutionalizing EMIS because of the high demand it placed



Ecological zoning map of the Costa do Sol neighbourhood, developed using EMIS, showing 3 of the 4 planned protection zones (Poligono 02, 03, and 04) in which construction is prohibited – Ingerop Mocambique, Lda./UN-Habitat (2011)

on human and financial resources. Other impediments to its full acceptance included a lack of good-quality GIS data, the high costs of accessing such data from national institutions, and the absence of standardized procedures for data creation and integration.

Despite these obstacles, several cities participating in CCCI are turning to EMIS as a decision-making support tool to help them to adapt to climate change.

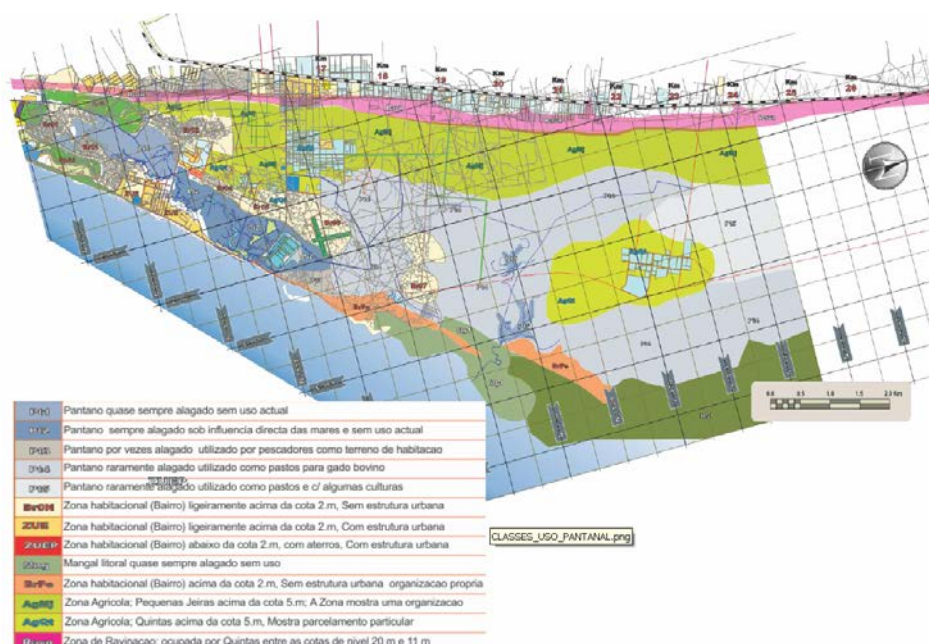
Below we survey experiences in three CCCI cities.

Environmental Management Information Systems in CCCI cities (continued)

In *Sorsogon*, the Philippines, CCCI supported acquisition of GIS software, and along with the University of Bicol provided a GIS training session for planning officers and the city's Climate Change Task Force. A climate change vulnerability and adaptation assessment recommended use of GIS in planning activities, particularly for housing and land-use in flood-prone areas. After collecting relevant data and producing geo-referenced maps, the city will be able to identify suitable areas for urban development according to land management policies, as well as design and implement appropriate disaster risk management plans. At present GIS is supporting development of Sorsogon's Comprehensive Land Use Plan.

In *Maputo*, Mozambique, CCCI and the municipality agreed to use EMIS to analyze the impacts of climate change so as to facilitate planning for adaptation and mitigation initiatives within the city. Outputs included a spatially accurate geo-database with up-to-date data sets, capacity building of municipal staff to run EMIS, and an ecological zoning plan for a mangrove protection pilot site in the Costa do Sol neighbourhood. These projects, along with a review of climate change policies and an assessment of awareness of climate change impacts, will form the basis of the Local Climate Change Adaptation and Mitigation Plan.

In *Kampala*, Uganda, GIS analysis underpins current efforts to map vulnerabilities to flood risk, and help the city to develop a strategic plan for integrated flood management (see



Map of the land use types in the Costa do Sol neighbourhood, developed using EMIS - Ingerop Mocambique, Lda./UN-Habitat (2011)

September 2012 CCCI Newsletter). Currently spatial analyses of flood risk at both the city level as well as at the local level in a particularly vulnerable pilot neighbourhood are nearing completion. The plan then is to build the capacity of the city's GIS Unit to take over these data sets and the GIS-based analytical tools used for these assessments, to allow for continuity after the end of the project.

The use of GIS to support city-level adaptation planning is also coming up at international conferences. At the UN Climate Change Conference held in Doha, Qatar in late 2012, UN-Habitat participated in a UN side-event on

"Integrated Spatial Data for Adaptation Planning". This event offered an opportunity to discuss the challenges of using EMIS and GIS to integrate spatial data for adaptation at the local level. As part of its intervention UN-Habitat pointed out that, not only are local authorities users of such data, but also that they can help to ground-truth data including climate change projections downscaled from global or regional models. UN-Habitat also expressed support for a cross-UN initiative, launched at this event, which will seek to promote increased access to spatially referenced data to support adaptation planning.

CCCI pilots Urban and Peri-urban Agriculture in three cities

CCCI and the Resource Centres for Urban Agriculture and Food Security (RUAF Foundation) have embarked on a joint programme to support three cities in carrying out urban and peri-urban agriculture and forestry (UPAF) pilot activities, and gauging their contribution to climate change adaptation and mitigation. Bobo Dioulasso (Burkina Faso), Kathmandu (Nepal) and Kesbewa (Sri Lanka) all have pre-existing relationships with the CCCI network. Each city will implement and monitor its respective pilot project(s) and engage in policy lobbying to integrate UPAF in local and provincial climate change policies and action plans. City leaders met with UN-Habitat and RUAF officials in Nairobi

in October 2012 to present and finalize their plans.

Bobo Dioulasso is planning to reconvert open vacant areas within the city into areas with multifunctional land use, whilst promoting agroforestry and recreation. Effects on urban temperatures, diversification of food and income sources and urban greening will be monitored.

Kathmandu will promote rooftop gardening and growing of different vegetables and herbs, and enhance existing rain water harvesting and organic waste recycling efforts. To demonstrate the connection with climate change, the

city will monitor the emissions reduction potential of composting, as well as the effects on ambient temperatures and diversification of food and income sources.

Kesbewa will rehabilitate abandoned paddy lands for salt-resistant paddy growing combined with vegetable production on raised embankments. Small, semi-commercial home gardens will be promoted in denser urban areas. Ultimately the city will monitor the effect of the projects on water infiltration and reduction of flash floods, diversification of income and the extent to which replacing imported foods with locally grown produce reduces food miles.

CCCI starts to implement evaluation recommendations

In 2012, an external team carried out a mid-term evaluation of CCCI. Now CCCI is beginning to act on those recommendations. Among the steps taken thus far: (1) A Terms of Reference for an external advisory body have been circulated for comment to those who participated in a CCCI partners' meeting

that took place in Naples last September. Plans are afoot to form this body and convene it for the first time in mid-2013. (2) A colleague from our Bangkok office visited Nairobi during the last week in January to spearhead development of a communications strategy and dissemination plan for CCCI. (3) The

formal management response to the evaluation is forthcoming. Stay tuned for more developments. *The CCCI mid-term evaluation currently is being copyedited. We will post a copy on the CCCI webpage as soon as it is available.*

RECENT EVENTS

ARCADIS contributes to capacity building event in Rwanda

Rwanda, one of the most densely populated countries in the world, is facing heavy rains, flooding and landslides. Through CCCI, UN-Habitat is working in partnership with the Rwandan Ministry of Disaster Management and Refugee Affairs (MIDIMAR), to address such challenges. The main focus is sensitization and capacity building in the area of land-use planning in flood- and landslide-prone areas.

In February 2013, CCCI and MIDIMAR coordinated a capacity building event in the capital city of Kigali for local planners from 17 districts. Through an existing pro-bono agreement with UN-Habitat, ARCADIS, a private company, provided the valuable contribution of three experts in the areas of flooding, landslides and land-use planning. The two day training was conducted by representatives from MIDIMAR, the



Participants of the capacity building event for Rwandan urban planners ©UN-Habitat

Rwanda Housing Authority, ARCADIS, the Kigali City Planning Office, and UN-Habitat.

The participants identified climate change impacts in their respective districts, and provided suggestions on how resilience to climate change can be incorporated into local development

plans. The event ended with an open-ended question: "After knowing the level of risk of the area, shall we resettle or upgrade?"

In closing, participants requested for more CCCI capacity building activities, and a continuation of the inputs from ARCADIS and UN-Habitat.

UN-Habitat and UNDP support Asian cities in climate change

Asian cities hold the key to a sustainable and inclusive future, with the dual challenge of supporting the urban poor and to respond to climate change. This was the message from a joint workshop where mayors and senior officials from 10 city governments across Asia came together. The workshop held last October was organized by UN-Habitat's Regional Office for Asia-Pacific and UNDP's Asia-Pacific Regional Centre.

As part of the workshop, city officials produced innovative cross-sector vulnerability assessments and inclusive urban action plans to address climate change, and brainstormed on strategies to link local level climate change strategies to national plans and policies.

H. Ilham Arief Sirajuddin, the mayor of Makassar, Indonesia, participated in the event. He stated: "I can't ignore the impact of climate change while developing Makassar into an 'eco-politan city', a city where all its inhabitants – both the haves and the have-nots – live



Participants of the Climate Change workshop for Asian cities ©UN-Habitat

in harmony with the environment." The mayor joined the Cities and Climate Change Initiative, and partnered with both UN-Habitat and UNDP to conduct a Vulnerability Assessment. This assessment is informing the municipal government's planning, budgeting and institutional capacity development processes to help reduce the vulnerability of the urban poor to climate shocks.

As an outcome of the workshop, UN-Habitat and UNDP are producing a series of Asia-Pacific Cities and Climate

Change Discussion Briefs. This series, to be launched in March, will focus on: i) Addressing urban poverty, inequality and vulnerability; ii) Deepening decentralization for inclusive and greener cities; iii) Promoting resilient housing and secure tenure; iv) Providing equitable and sustainable urban basic services; and v) Designing climate linked social protection in cities. The series will assist in continuing this discussion with governments and development partners.

Mainstreaming climate change responses into statutory plans

Philippine cities continue to be particularly active in addressing climate change challenges under CCCI. The most recent city partners are Butuan, Cagayan de Oro, Davao and Iloilo. The cities are currently being assisted to conduct vulnerability and risk assessments that will form the basis for developing local climate change action plans.

With complementary funding support from the USAID/WFP Disaster Preparedness Project, CCCI has started to plan for climate change processes in the four cities, following formation of technical working groups comprised of representatives from city sectoral departments, partners from national government agencies and civil society.

The relevance of the planned support was underscored by recent flood in Davao and Butuan, which occurred just as the vulnerability assessment workshops were initiated in January 2013. The flooding in Davao City caused by overflowing rivers affected several areas and resulted in the evacuation of more than 5,000 families. The flooding also resulted in the cutting of power lines thus impacting on economic activities. In the same month,

the City Council of Butuan declared a state of calamity following the damages incurred due to flooding. Butuan Mayor Ferdinand Amante Jr. stated that the local government alone cannot handle the cost of the damage. "We had an assessment as to the need for the declaration [of state of calamity]. There were more than 4,500 families affected together with damage to infrastructure and agricultural lands all over the city," said Mayor Amante.

It is on such city-level realities that CCCI support for vulnerability and risk analysis focuses; such work in turn is crucial to prioritize climate change adaptation action. For example, based on national government climate change models for the provinces where Davao and Butuan are located, a temperature increase of 0.9 to 1.1°C is projected for the period 2020 to 2050. For the same period, seasonal rainfall for December, January and February is likely to increase by 18%, although a declining trend of up to -12% for the remaining nine months is foreseen. Whilst there are many efforts being made to adjust national level policies as well as provision of geo-hazard maps to the cities, the CCCI track is geared towards assisting the cities in using such information and

policies to the cities advantage, through understanding how such changes could be interpreted and linked with their local development realities including their development agenda and priorities.

UN-Habitat's roll-out of CCCI in the Philippines is made possible by the agency's established partnership with government agencies. The Department of Interior and Local Government (DILG) through its Bureau of Local Government Development is CCCI's key partner in conducting vulnerability and risk assessments at the city level, and in mainstreaming climate change assessment results into the formulation of city-level Comprehensive Development Plans. CCCI works with DILG in promoting local government's adherence to the Rationalised Planning System (RPS), especially in expanding the "ecological profiling step", by mainstreaming climate change and disaster management parameters as basis for the spatial and sectoral strategies and plan formulation. For such, CCCI has developed tools and templates for use in local planning. This greatly contributes to the national government's efforts in strengthening the RPS guidelines towards building risk resilient cities and communities.

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

