

# UN HABITAT CITIES AND CLIMATE CHANGE INITIATIVE NEWSLETTER

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## Primary school supports innovative approach to flood risk management in Kampala

Students at Outspan Primary School in Bwaise, a poor, flood-prone neighbourhood in Kampala, Uganda, are learning how to collect meteorological data – and, along the way, something about how climate change increasingly affects their lives. Two times a day they measure the amount of rain that has fallen over the past several hours at their school grounds. They then jot down observations on the duration of the rainfall and its effect in terms of flooding of their school yard.

The school's head teacher, Mr. Leonard Okokes, is pleased about the pedagogic benefits of the activity. "The collection of rainfall data is important for our education programme. Classes are studying weather changes on a daily basis, and this provides practical lessons to our students". At the same time this hands-on activity is not merely a classroom learning exercise, but rather forms part of a much broader, real world assessment.

This innovative learning approach is being tested as part of the data collection component of the UN-Habitat-supported Kampala Integrated Flood Management project. The Kampala Capital City Authority (KCCA) recently joined forces with UN-Habitat's Cities and Climate Change Initiative (CCCI) to gauge that city's flood risk; this assessment is a first step in helping KCCA to develop a strategy to manage the city's urgent flooding problem. A diverse team led by the Faculty of Geo-Information Science and Earth Observation at the University of Twente (ITC) in the Netherlands, along with faculty members of Kampala's Makerere University and a German



*Flooded courtyard of Outspan Primary School in the Bwaise neighbourhood of Kampala, Uganda  
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engineer who specialises in urban hydrology, is implementing the study.

Flooding is an urgent environmental concern in Kampala. Much of the city is built on former wetlands and swampy ground. A high proportion of the urban poor live in these flood-prone areas. In recent years unplanned urbanisation, poor management of solid waste which can clog storm sewers, as well as other factors, have increased residents' exposure to flooding and ancillary hazards. These secondary hazards include health issues: over the past 15 years, Kampala has suffered from several disease outbreaks that are at least partly attributable to increased flooding, and which especially afflict the most vulnerable.

Along with negative effects on health,

flooding also interrupts people's everyday lives. In the case of students and teachers at Outspan Primary School, three heavy rainfall events between April and May 2012 flooded classrooms and left the school grounds temporarily inaccessible. Poverty and a lack of resources underlie the flooding issue. In the future, without a long-term strategy, increased urbanisation coupled with climate change may well lead to deteriorating conditions.

The approach taken in the present study reflects a new conceptual paradigm: Integrated Flood Management (IFM). While little tested to date in cities in developing countries, IFM promises to be a useful approach to help KCCA address its flooding problem. Previous flood management efforts in Kampala focused on a traditional sectorial engineering solution: the development

## Primary school supports innovative approach to flood risk management in Kampala (continued)

and implementation of a storm-water drainage master plan for the city's eight major water catchment areas. In a resource-poor city such as Kampala, however, such plans may take decades or more to realise.

The new integrated approach, however, will embrace both 'hard' and 'soft' solutions in a holistic and cross-sectorial manner. 'Soft' measures may well include cost-effective approaches such as community-based early warning systems in flood-prone neighbourhoods, and improved land management. Other measures that fall under the rubric of 'sustainable drainage systems' (e.g., increasing permeable surfaces, retaining and harvesting rainwater) also may be proposed.

The project involves analytical and prescriptive work at two spatial levels: a city-wide assessment of the risks of flooding, coupled with a more detailed risk assessment in a representative 'hotspot' neighbourhood in that city. The neighbourhood selected, Bwaise, picked in large part for the exposure of a poor population to frequent flooding, was chosen by the project's steering committee - a group that includes not only the heads of two key KCCA departments, but also a representative of the National Slum Dwellers Federation that is active in Kampala. Mr. Joseph Ssemambo, Acting Director of Physical Planning at KCCA and chair of the committee, supported the establishment of this body from the outset: "It is a very good idea, especially for community ownership of the project, to [build support for] implementation of the recommendations that will come thereafter".

As informed by pilot work in Bwaise, the project will result in a proposed city-wide strategy and action plan for IFM in Kampala. This plan will include both policy recommendations as well as other cost-effective steps that the city can take to better manage the risk of floods. Recommendations undoubtedly will include a mix of strategies aimed at linking urban drainage needs with the city's services, systems, functions, spaces and storm water flows. Dr. Sliuzas, the ITC team leader in Kampala, explained how



*Students of Outspan Primary School in Kampala, Uganda collecting rainfall data ©UN-Habitat*

people in affected neighbourhoods could be motivated to support implementation of proposals: "It is not easy to trigger residents' support if measures will only improve lives downstream. But with the price of potable water in Kampala slated to rise in the future, people may begin to understand how, for example, rainwater harvesting can help them to save money they would otherwise spend on piped water for sanitation, washing, and cleaning".

While the data collected by the students of Outspan Primary School will help to underpin the planning process, Dr. Sliuzas cautioned that more than one station will be needed around the city in order to have a minimum number of

data collection points. As another step in that direction, the ITC team installed an automatic rainfall station at Makerere University campus to collect high resolution temporal data. As Dr. Sliuzas explained: "Establishing weather stations in schools or other public facilities has the advantage that the data collection can be institutionalised, which ensures functional, well-maintained stations through which data can be regularly collected on an ongoing basis, even after a development project winds up". At the same time that collecting data is crucial from a technical point of view, such an activity in a community like Bwaise also helps to raise the schoolchildren's - and the community's - awareness about crucial environmental issues.

# Responding to an ever increasing demand, the Cities and Climate Change Initiative takes action in Asia and the Pacific

The Asia Pacific Region, home to more than 4 billion people, is faced with significant climate change pressures that challenge all aspects of urban development, including environmental sustainability, patterns of settlements, livelihoods and employment. Climate change affects in particular the urban poor, and is expected to increase urban inequities. UN-Habitat's Regional Office for Asia and the Pacific has therefore made rolling out the Cities and Climate Change Initiative a priority, and has taken steps to support governments in the region in addressing these challenges.

In 2010, UN-Habitat convened regional stakeholders in Changwon City, South Korea, to discuss the escalating demand from cities for support to build climate change resilience. This event, which gathered city leaders thirteen countries as well as representatives of national government, NGOs, academia, and other regional support programmes, led to the crafting of the "Changwon Declaration". This declaration conveys a consensus to strengthen city-level responses to climate change impacts, scale-up local climate change responses through national-level policy interventions, and sustain these achievements through improved regional collaboration.

UN-Habitat has since taken the Changwon Declaration forward, crafting the Asia and the Pacific Strategy for the Cities and Climate Change Initiative. Over the next several years, the strategy aims to assist 50 cities in at least 15 countries in preparing and implementing comprehensive climate change strategies and action plans. The need for city-level support is especially noted in the Changwon Declaration; it is further substantiated by a regional study of nearly 900 cities, which reveals that "only 3 percent of (the sampled) Asian cities have a plan to tackle the challenge of climate change"<sup>1</sup>.

Acting on this, UN-Habitat is already supporting more than 20 cities in 13 countries in the region, and is now geared to add at least 10 more cities, thereby expanding the presence of the initiative to 18 countries in the Asia Pacific. One additional country being assisted in the Pacific is the Solomon

Islands, with an initial focus on conducting a vulnerability and adaptation assessment and showcasing ward-level adaptation actions within Honiara City. This initiative in the Solomon Islands is in addition to ongoing activities in Fiji, Papua New Guinea, Samoa, and Vanuatu. Increasingly in-kind support and funding for city- and national-level activities being provided by the cities and national governments themselves, in collaboration with a wide range of development partners.



*Mataniko River in Honiara, Solomon Islands  
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One of the challenges being addressed by the Asia and the Pacific Strategy is the integration of good climate-responsive urban development practices into national policies, strategies and legislative reforms, especially those concerning risk resilience and climate change. UN-Habitat's CCCI is working with national government agencies responsible for ensuring sustainable urban development so that appropriate adaptation considerations are included and integrated in policies and laws.

As CCCI expands its activities in the region there is stronger demand for more strategic partnerships amongst development support actors, as well as for more coordinated knowledge sharing through efficient platforms.

The response of the CCCI in Asia and the Pacific thus far includes the conducting of a regional-level "Training of Trainers on conducting climate change assessments and action planning", in collaboration with the regional network of local government training providers, LOGOTRI. It also includes networking and knowledge sharing events like the "Regional Workshop on Governance and Climate Change", held in Sri Lanka in May 2012, and the "Expert Group

Meeting on developing a quick guide on adaptation actions", conducted in collaboration with the United Nations Economic and Social Commission for Asia and the Pacific and the Rockefeller Foundation-supported Asian Cities and Climate Change Resilience Network, and held in July 2012. Plans are now underway to move towards supporting "communities of practice" on specific climate change-related challenges. Practitioners have started to compare notes on the conduct of vulnerability assessments, urban ecosystems-based adaptation, water and sanitation, governance, gender and other topics. Another noteworthy achievement is the signing of an agreement to link UN-Habitat's network of cities and knowledge products with the efforts of the City Development Initiative for Asia, connecting cities to sources of finance through various capacity development support initiatives.

*In the Philippines, UN-Habitat supported urban development stakeholders in advocating for the inclusion of urban adaptation strategies within the National Framework Strategy for Climate Change, following the passage of the Philippines Climate Change Act in 2009. In view of the CCCI experience, especially in Sorsogon City, the Philippines Climate Change Commission and UN-Habitat will be working together to jointly disseminate and apply knowledge products that support urban adaptation in the Philippines.*

As CCCI continues to mature, cities and national governments continue to request for support. UN-Habitat remains committed to expanding its support to new geographic areas, and encourages additional collaboration with development partners across the globe.

1. Published by the Clean Air Initiative for Asian Cities (CAI-Asia) and the Cities Development Initiative for Asia (CDIA), 2012.

## Launch of Knowledge Centre on Cities and Climate Change (K4C), 3 to 6 September 2012



A growing interest in cities' contributions to climate change, and the ways they are responding to its impacts, has led to an increase in research and projects over the last couple of years.

As a response to the rapid development of and demand for knowledge in this important thematic area, UN-Habitat, UNEP, and the World Bank have joined forces for a more concerted and coordinated knowledge management effort.

The Knowledge Centre on Cities and Climate Change (K4C) is one result of a Joint Work Programme funded by the Cities Alliance. The virtual platform was borne of the need to compile and structure existing knowledge and experience, and make it accessible to all through an online portal.

K4C, accessible through the website <http://www.citiesandclimatechange.org>, tracks developments in the field of cities and climate change by serving as a platform for sharing experiences and best practices, as well as facilitating exchange of innovative initiatives. K4C aims to equip municipal staff and urban practitioners with information to better understand their local situations. K4C will be launched at UN-Habitat's 6<sup>th</sup> World Urban Forum in Naples, Italy.

## CCCI Partners' Dialogue, 7 September 2012

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

The meeting's objectives will be to review, validate and enrich the preliminary findings of an ongoing mid-term evaluation of the Initiative. The partner's will also discuss options for a more robust engagement of CCCI with partners, both in terms of operational and normative activities as

well as regarding project governance. Participants at the meeting will include CCCI global partners, selected local and national officials, and other stakeholders from CCCI countries. Other experts and representatives from relevant organizations will also be invited.

## Local Government Workshop on Planning for Climate Change in Asia, 2 to 6 November 2012

UN-Habitat, in collaboration with the International Urban Training Centre in South Korea, will offer 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 will be trained in UN-Habitat's methodology for developing local climate change action plans. Upon their return to their cities and municipalities, they will be supported in developing such plans.

## ABOUT US

Headquartered at UN-Habitat in Nairobi, the Cities and Climate Change Initiative (CCCI) involves the participation of more than 20 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](mailto:ccci@unhabitat.org) or visit <http://www.unhabitat.org/ccci>.

## CCCI Cities and Countries

