

Recommended Reading

IPCC (2007) Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge, UK: Cambridge University Press

Kithia, J. (2011) 'Climate Change Risk Responses in East African Cities: Need, Barriers and Opportunities', *Current Opinion in Environmental Sustainability*, 3(3):176-180

Lwasa, S. (2010) 'Adapting Urban Areas in Africa to Climate Change: The Case of Kampala', *Current Opinion in Environmental Sustainability*, 2:166-171

Lwasa, S., Koojo, C., Mabitizi, F., Mukwaya, P. and Sekimpi, D. (2009) Assessment of Cities and Climate Change in Kampala and Uganda (2009). Prepared within the framework of the Cities and Climate Change Initiative, Nairobi, Kenya: United Nations Human Settlements Programme

Satterthwaite, D. (2009) The Implications of Population Growth and Urbanization for Climate Change, paper presented at the Expert Group Meeting on Population Dynamics and Climate Change, 24-25 June, London, UK: United Nations Population Fund and International Institute of Environment and Development

Simon, D. (2010) 'The Challenges of Global Environmental Change for Urban Africa', *Urban Forum*, 21:235-248

UN-Habitat (2012) Promising Practices on Climate Change in Urban Sub-Saharan Africa, Nairobi, Kenya: United Nations Human Settlements Programme

UN-Habitat (2010) Vulnerability Assessment and Climate Change Adaptation Planning, Nairobi, Kenya: United Nations Human Settlements Programme

About AfricaInteract : AfricaInteract is a platform enabling research-to-policy dialogue for adaptation to climate change among a broad range of African stakeholders in sub-Saharan Africa. These include civil society, researchers, policy-makers, donors, and the private sector working on adaptation to climate change in the agriculture and health sectors as well as urban areas with water and gender as cross cutting issues. The overall objective of AfricaInteract is to develop a platform for the effective and efficient transfer of information to policy makers, with the ultimate aim of enhancing the resilience of vulnerable populations. AfricaInteract is funded by the International Development Research Centre (IDRC) and coordinated by the West and Central African Council for Agricultural Research and Development (CORAF/WECARD) under the auspices of the Forum for Agricultural Research in Africa (FARA). The regional focus of AfricaInteract is based on the Regional Economic Communities in the four sub regions of sub-Saharan Africa. Focal organizations coordinating regional activities are as follows: The Association for Strengthening Agricultural Research in East and Central Africa (ASARECA) – East Africa; Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN) – Southern Africa; Commission des Forêts d'Afrique Centrale (COMIFAC) – Central Africa; and Energie-Environnement et Développement (Enda) – West Africa.



Enabling research-to-policy dialogue for adaptation to climate change in Africa

Policies for Climate Change Adaptation in the East Africa Urban Areas

Context and Importance of Climate Change in East Africa Urban Areas



tural livelihoods, which has subsequently triggered rural-urban migration in all of the countries under review (Brückner 2012; Rockefeller Foundation 2010; Mendel 2006; Todaro 1995).

Unemployment, poor housing and inadequate sanitation and waste management facilities are responsible for making cities more exposed to climate impacts such as flooding, in Kampala, Dar es Salaam, Mombasa, Kibera and other African cities (Poelhekke 2011; Lwasa 2010). Coastal cities in the region, such as Mombasa in 2006,

Urbanization rates in the East Africa Community countries are consistent with global urbanization. The Great Horn of East Africa (GHEA), records the most rapid urbanization rate in Africa (Rockefeller Foundation 2010). The rapid urbanization in East Africa has been partly driven by the decline in rural development and a decrease in the value of agricul-

are especially prone to flooding due to sea level rise, leading to a disruption in the economy from suppressed tourism activity and other disturbances (Awuor et al. 2008). Disruptions in water availability affect domestic water systems and trigger sanitation-related disease outbreaks; these, as well as disturbances in transport systems and electricity supply,

are much more significant in informal settlements (Böhm et al. 2010; Lwasa 2010). There is a dominant view that local climate planning for cities is likely to succeed if climate change is considered within a framework of multiple stressors (Kithiia and Dowling 2010).

But reliable evidence on the actual risk and impacts of climate change on urban areas in East Africa is strongly limited (Omondi et al. 2012; Kithiia 2010; IPCC 2007). Studies indicate that the cities of East Africa are crowded and in sub-standard physical conditions as city authorities fail to match infrastructural development with their growing populations (Archambault et al., 2012). Generally, climate change in the region is likely to impact on economic systems, livelihoods, infrastructure and water, and other variables. The rapid rate of urbanization and poverty in the East Africa Community Countries demands robust and effective national and regional holistic policies and planning that target inequalities in the urban areas of the region where the business elite dominate the urban space (UN-Habitat 2010).

Regional Policies related to Climate Change Adaptation in East Africa Urban Areas

Regional policies and strategies in the East Africa region make very little mention of climate change considerations; thus climate change issues are rather add-ons to other sectoral issues. Adaptation efforts are also not integrated into other national development programmes. The New Partnership for Africa's Development (NEPAD) of the African Union makes reference to the importance of providing efficient environmental services in cities through properly planned and managed public utilities; control of industrial pollution; sound management of coasts; adequate water and sanitation; and efficient waste management. Seven African cities, including Nairobi in East Africa, were selected for the NEPAD pilot Cities Programme.

East Africa Community countries have reviewed their land and urban policies and legislation under the Bamako Plan of Action Framework in the face of rapid urbanization to increase access to secure tenure and affordable housing. In East Africa,

there is no standalone policy or strategy on urban planning and development. Rather, urban development issues are addressed in other strategies, such as the Regional Strategy on Scaling-up Access to Modern Energy Services and the EAC Development Strategy (2011). The EAC Development Strategy mentions global warming and environmental degradation, including institutionalizing long term urban planning and support for urban development and housing in the East African region.

Climate change considerations in national government urban area policies

Kenya has finalized a National Urban Development Policy (2011) that was developed following the National Constitution in 2010. The policy recognizes that climate change impacts are being experienced and incorporates a section on land, environment and climate change. The Policy thus creates a framework for the planning, development and management of public open spaces, parks and recreational facilities, including creating structures for mainstreaming disaster risk management and climate change planning in urban planning and development (National Urban Development Policy 2011). In Tanzania, climate change is not considered in urban area planning although reference is made to environmental management and in the gazette of the swamps in the city as 'hazard lands'. Uganda does not have a national urban policy to guide its activities. The current Climate Change Legislature draws its legitimacy from the Constitution of the Republic of Uganda (1995) and international conventions such as the UNFCCC, which Uganda ratified in 1994, and the Kyoto Protocol. There are no urban or climate change policies, and the Kampala City Council has not adopted climate change in its agenda, but recent country level interventions and creation of the Climate Change Unit provide an entry point into developing an Urban Planning Policy.

Key research findings to be considered for informed decision making in Climate Change Adaptation in East Africa Urban Areas

Research on EAC member states outlines factors that compound experiences of impacts from climate change in urban areas. There is a dominant

view that local climate planning for cities is likely to succeed if climate change is considered within a framework of multiple stressors (Kithiia and Dowling 2010). The impacts of flooding in the cities in the regions would not be severe if the cities did not have solid surfaces that cause water run-off, and if they did not lack parks and green spaces to absorb water flows as well as sound drainage systems (Mendel 2006). Studies on the region highlight key factors that heighten vulnerability for city-dwellers; these include food insecurity and poverty, resource-based conflicts and over-reliance on rain-dependent systems (Marchiori et al. 2012; Omondi et al. 2012; Parnell and Walawege 2011).

Understanding population trends with regards to climate change is important for achievement of informed policy responses (Satterthwaite 2009). In Mombasa, Dar es Salaam, Nairobi and Kampala, research shows that population increases are associated with housing challenges and exposure and sensitivity to flood risk as residents construct makeshift housing structures that are built of weak and inadequate materials (Gichere et al. 2011).

Options for reducing vulnerability and strengthening adaptive capacity

Available research on adaptation to climate change in urban areas in East Africa highlights options for reducing vulnerability and strengthening adaptive capacity to current and future climate change impacts. At the individual level, it is important to promote resilience for individual households, by providing access to information on weather and any looming crises in time for households to make decisions regarding immediate responses (Gichere et al. 2011). It would be important to follow up on this information dissemination pattern to ensure that households engage in activities that make them more resilient in times of shock by providing training and the necessary infrastructure (Archambault et al. 2012).

Studies in East Africa on community-based adaptation strategies that could be employed by urban communities to address poverty and impacts from climate change issues offer possibilities for adaptation; these include domestic energy briquettes from wastes, greening and urban agricul-

ture, household level rainwater harvesting and nutrient recycling from wastes (Lwasa 2010).

Policy Options for consideration in the Urban Sector of the East Africa Region

Policy options to address the major challenges of direct and indirect impacts of climate change in the East Africa Urban sector include the following.

- Scientists/Researchers: Research scientists should provide scenarios for future climate changes, particularly on rainfall trends at local and national levels and be more proactive in targeting policy and policymakers in local platforms where their research can feed into climate change formulation processes.
- Researchers in East African countries should take advantage of the emerging opportunities for collaboration and strengthening of networks within the region, such as the World Urban Forum and the Africa Centre for Cities. National parliamentary forums for climate change and the East Africa Parliamentary Forum for Climate Change respectively can be invaluable to the cause.
- National and regional level policymakers: Governments should commit adequate resources for the procurement of downscaling equipment and building capacity that can improve the quality of climate forecasts and scenarios.
- National governments in East Africa should invest resources in building the capacity of urban authorities in aspects such as fiscal management and monitoring and evaluation of climate related plans and strategies. National policy formulation in climate change adaptation should involve all stakeholders in the process.
- Urban Communities: Urban communities should shift from the current exclusively individual household adaptation strategies, such as shelter protection in times of floods, to self-mobilize community driven strategies such as protecting local facilities, streets, drainage systems and solid waste management, both as coping and adaptation measures.