

## ***Planning and Climate Change in Nairobi***

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Climate change is challenging the livelihoods of the poor throughout Kenya, including in Nairobi city. There is generally a low level of knowledge and awareness about climate change and its effect on water availability in Nairobi. People tend to see a very remote connection between what is happening to the environment and anthropogenic activities. The impacts of climate change in Kenya include reduced availability of and access to water, causing rationing during droughts; reduced hydropower generation (which is a major energy source for the country); and increased vulnerability of the urban poor. Due to climate variability and factors such as droughts and interference with watersheds in Kenya, hydropower has been fluctuating and it is becoming irregular. The Government has introduced thermal and geothermal energy projects, amongst others, to address this problem, but the solutions will take some time to materialize. Those relying on electricity for their livelihoods (e.g. in factories or home-based industries) and for personal safety (requiring well-lighted public spaces) are negatively affected by these changes.

Kenya is rapidly urbanizing, with an expected average urban growth rate of 3.9 percent per year for the period 2005-2010. In 2007, about 25 percent of Kenya's population lived in cities, and according to 2009 national census 32.3 percent of the population were living in urban. This growth is largely due to a high level of migration to the cities, fuelled by rural poverty and a dwindling per capita

ownership of farming and grazing land. Nairobi attracts the bulk of rural-urban migrants.

There is a lack of concern and commitment by the State agencies to building resilience, although there is emerging interest on the part of the Government of Kenya in reclamation of watersheds and rivers. In 2007, the Government of Kenya launched its vision for national development over the next 20 or so years (Kenya's Vision 2030, Ministry of Planning and National Development). The plan, 'Vision 2030', is implemented through five-year rolling plans starting in 2008 (Kenya's First Medium Term Plan 2008-2012).

The current five-year plan sets out environmental objectives with a forest focus:

- Increasing forest, tree cover and wood production especially at farm level;
- Conserving and rehabilitating the remaining natural forest and woodlands for environmental protection and biodiversity conservation;
- Enhancing participatory forest management; and,
- Ensuring that the forestry sector makes a contribution to poverty reduction.

The plan also covers management of water catchment areas, and recognizes that deforestation has caused severe degradation of the main water supply areas, reducing base river flow and disrupting electricity supply.

The new Kenyan constitution (2010) recognizes access to clean and safe water in adequate quantities as an economic and social right for all – so a certain amount of political goodwill exists on water-related issues. However, while a few projects related to Nairobi River and Nairobi Dam have been launched by the

government along with other partners, there is little evidence of a commitment to addressing the issue of climate change more generally.

Nairobi Dam is located right next to Kibera slum, one of the biggest slums in Sub-Saharan Africa. Its waters are quite polluted, and since 2006 there has been a government project to clean up the Nairobi River which runs down from the dam. This project includes partners such as the Kenyan Ministry of the Environment, the City Council of Nairobi, the Government of Kenya, and the University of Nairobi in partnership with civil society organizations. The project has managed to reclaim and protect some sections of the river by moving some incompatible activities that encroach on the riparian reserve, notably the section near Ngara and the area near Kirinyaga road, where a number of informal activities such as motor garages were located on the riparian reserve. The major task of the project is to reclaim the entire river and control pollution emanating from commercial, industrial and residential uses adjacent to the river.

### **Institutional Capacity and Bureaucracy**

The limitations of current programs are partly due to insufficient financial resources and technology to adapt, respond to climate change and act accordingly. Other problems include high levels of bureaucracy in local institutions, and as noted above, low levels of knowledge and awareness about the impacts of climate change on the city, its water and everyday life.

There is a general lack of policies, instruments and strong institutions for regional and city management and governability. Nairobi has neither a Regional

Plan, a City-wide Development Plan, nor a Risk Management Plan. When the Environmental Management and Coordination Act was developed in 1999, civil society groups were not consulted, and they are not actively participating in the environmental assessment process for new land-related developments. To put up a new building in Nairobi, you must get permission from the City Council of Nairobi and National Environmental Management Authority. But these institutions simply do not have the capacity to control development in the entire city. The city of 3.1 million people has fewer than 20 municipal planners. They're overworked, and that's a problem; that's one reason we see so many slums sprouting up, since they are unable to guide and control the city's physical development and expansion. Occasionally the riparian reserves and water courses are encroached upon by developers, risking the lives of the occupants of these developments, especially during rainy seasons with regard to flooding.

Another glaring and daunting task is coordination among the policies and institutions entrusted with the duty of planning and managing of the metropolis. The many conflicting statutes should be harmonized so as to have a structured and value-adding approach to the management of the metropolis. The policies and institutions should also take seriously the perceptions and aspirations of all cadres of urban dwellers, from slum dwellers to the wealthy residents, and all cadres of self-employed persons, from street vendors to multi-billionaires. This is crucial so that the city's spatial framework is seen as legitimate and binding upon all. At the same time, Nairobi has a need to protect the metropolitan environment from being a major generator of pollution. We need to attempt to ensure that pictures like the

one below, where some people live in the riparian reserve, are avoided.

[INSERT PHOTO ABOUT HERE: houses within riparian reserve]

Local authorities have considerable authority over land use planning and water management, and thus they play a significant role in containing major contributors to urban climate imbalance -- such as the transportation and energy sectors -- all of which have implications for climate change.

Most urban development models in Africa have generally ignored the plight of the urban majority, such as the informal settlement dwellers and urban informal economy operators. This mistake is also visible in the formulation of global agendas and development models -- as shown in the focus of the Millennium Development Goals (MDGs), where targets such as revitalization of the informal economy are missing despite the fact that the informal economy is the kingpin in providing work for the urban poor, whose income needs to be raised in order to meet basic needs.

At the global scale also, the effort to curb climate change has always focused on the major generators of greenhouse gases at the expense of the victims, who in most cases live in the less-developed countries. This makes it hard to contain the negativity associated with climate change, since developing countries are continuing to embrace and adopt technology and skills that are being phased out in the developed world because of the environmental threats they have been associated with over time.

These shortcomings call for development of an integrative and

comprehensive urban planning and development framework at all levels that embraces progressive urban governance and empowerment of the institutions charged with the planning of urban areas. The Nairobi Metropolitan Region 2030 planning framework should ensure that problems associated with uncoordinated urban growth are handled amicably, and also take into account the desires of the urban poor, who form more than 60 percent of Nairobi's urban population and who will be worst affected by climate change, due to the nature of their activities and the less-desirable locations where they live. Sustainable urban planning and governance is no longer a preserve of professionals and bureaucrats, but must be recognized as an inclusive process, accommodating stakeholders of all kinds.

### **Water Governance and Planning**

Improved water governance in Nairobi will require the involvement of State actors in enhancing adaptability in relation to service provision. For example, different stakeholders have different capacities; the Kenya meteorological department and key service providers, such as the energy and water ministries and the local authorities like the City Council of Nairobi, are all involved in various types and stages of adaptation. Their involvement is necessary in developing a better informed public on climate change issues. An information database and structures for information sharing and dissemination are also needed. This involves issues of territorial dimension, going beyond the State apparatus and embracing partnerships with civil society organizations, and the more general awareness and informed participation by civil society.

Nairobi could even develop a Water Governance Index (WGI) using criteria such as Availability, Management, Effectiveness, Accountability, participation, equity, and others.

### **University-Stakeholder Interaction Methodology**

The University of Nairobi has Community Outreach Programs dating back to the 1960s, with departments such as agriculture and medicine being the pioneers of this noble idea, which has now spread to other faculties such as the School of the Built Environment (SBE). Students work in and with communities to share their common interests and also to appreciate how community organizations conduct their work. In the urban planning department, through various rural, urban and regional studio courses, staff and students interact with citizens and development stakeholders including government officers and non- governmental organizations to identify and map issues affecting planning and development, such as resource and governance issues. Through these studios, the department also helps to identify areas needing capacity building and improvements in interaction and communication, enhancing inclusive/affirmative participation, especially of the disadvantaged.

Examples of outreach work undertaken by the University of Nairobi include:

- The establishment of benchmarks and platforms for interaction between universities and civil society organizations, in the University of Nairobi's work with civil society organizations such as Pamoja Trust on slum

- improvement projects in the Mathare and Mukuru areas of Nairobi;
- The Department of Urban and Regional Planning, through its Urban Innovations Project (UIP), is undertaking wider innovative research-based outreach in the Nairobi city slums and is now focussing in two Nairobi slums, Mathare and Mukuru. They are supporting communities to prepare local plans which can inform the provision and accessibility of shared community facilities.
  - Cleaning and reclamation of Nairobi River. This initiative is driven by UNEP which formulated its `Nairobi River Rehabilitation and Restoration Program` to improve the environmental conditions of the river Basin. This exercise is ongoing, and it has brought together Government agencies and the private sector.
  - Participation in the development of planning, redevelopment, and conservation strategies for Nairobi River – a government priority. As one of the three rivers in the City, Nairobi River occupies the central position, and it has longstanding historical importance as it traverses many areas of the city. However, there is overt encroachment on the floodplain, neglect and apathy towards the river, with rampant pollution and diversions. A River Rejuvenation Policy is needed to spark the environmental upgrading of the river, and develop the river as an integral structuring system for the city (Government of Kenya, 2011).
  - Tree-planting activities in the Karura and Mau forests with university student and staff participation.



- Combined studios between the University of Nairobi and Columbia University focusing in Ruiru municipality to address several developmental issues such as land use and development control in the area;
- Development of appropriate models of water governance that are also sensitive to climate change adaptation, focusing on the awareness and resilience of the urban poor. This is a multi-agency approach where Universities including the University of Nairobi are involved, along with the UN Environment Programme, the Ministry of Environment and other ministries, the National Environment Management Authority (NEMA), the City Council of Nairobi (CCN), the Kenya Private Sector Alliance (KEPSA), Kenya Association of Residents (KARA) Muungano wa Wanavijiji (an association of slum dwellers), the Kenya Association of Manufactures (KAM), and others. The idea of this platform is to create a framework for ensuring that all water users have access to water, but also to include other factors that may enhance living environments for the urban poor. The platform is normally active when a member of the platform has a problem with service provision. It helps in reducing the antagonistic relationship between service providers and service users.

## **Conclusion**

Local water governance in relation to climate change still involves complex debates, despite the global concern it has merited. The governance and adaptation to climate change will require an integrated approach to build various stakeholders'

confidence and capacity. We need to reduce the gap between researchers and implementers, and between civil society and government. The focus and energy should be on awareness, partnership of various actors and behavioural change.

Planning in Nairobi should be based on a true sustainable development framework which should be highly participatory and responsive to the needs and aspirations of the residents. It should be integrated with urban governance principles which enable people to appreciate both short and long-term implications of decisions taken now. This is crucial, as the poorer countries like Kenya will likely continue to suffer irreparable losses which will be heavily shouldered by the next generation.