Urban Africa — Challenges and Opportunities for Planning at a Time of Climate Change

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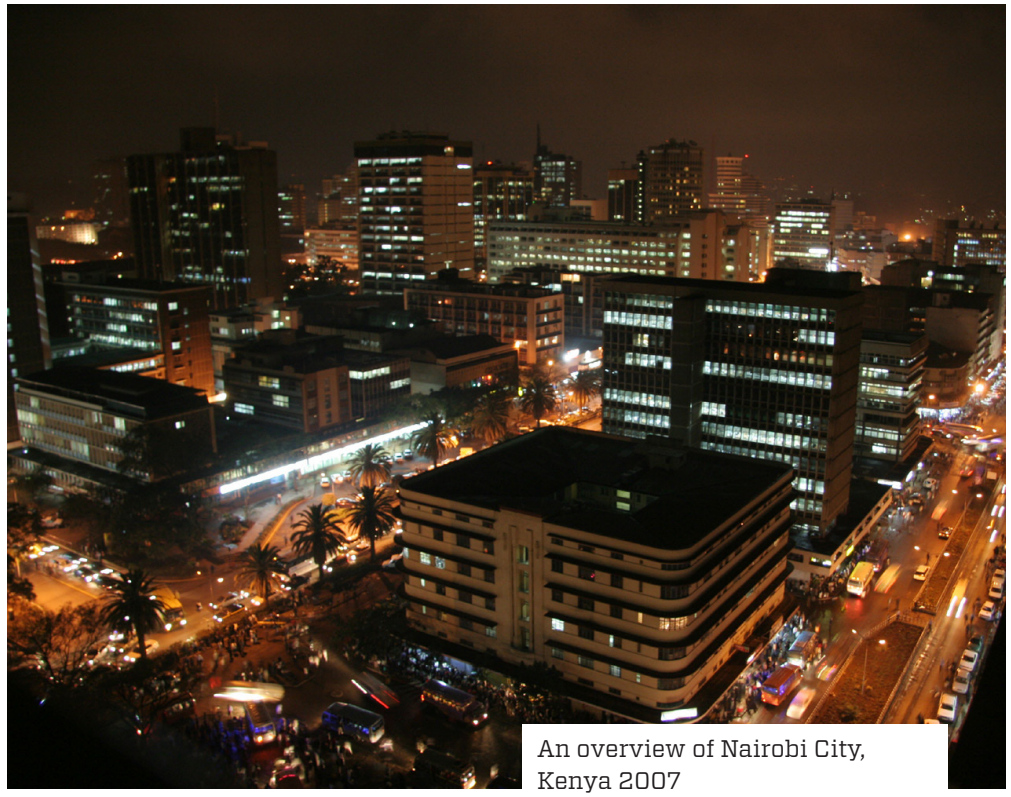
This century has seen the shift of the majority of the world population to an urban setting/environment. Africa is still the continent with the lowest level of urbanization. At the same time, it is also the continent where urban growth is happening at the fastest rate. Despite these facts, policy makers and the donor community continue to portray Africa as a rural continent and to focus the largest part of their development efforts on rural areas. In general, too little attention is paid to the urban reality of the continent, to understanding its drivers and profile, and to confront properly the challenges, but also embrace the opportunities these trends present for the overall development agenda in the continent.

This paper will summarise the present urbanization and urban policy trends in Africa, its key challenges, and how some innovative urban development planning approaches have been deployed to address them. On this basis, the paper will look at more recent concerns related to climate change and analyse their relevance for the continent's cities in terms of direct and indirect impacts. Finally, it will try to present how urban planning actors and in particular cities are responding to these challenges. It will conclude with reflections on a possible agenda for action.



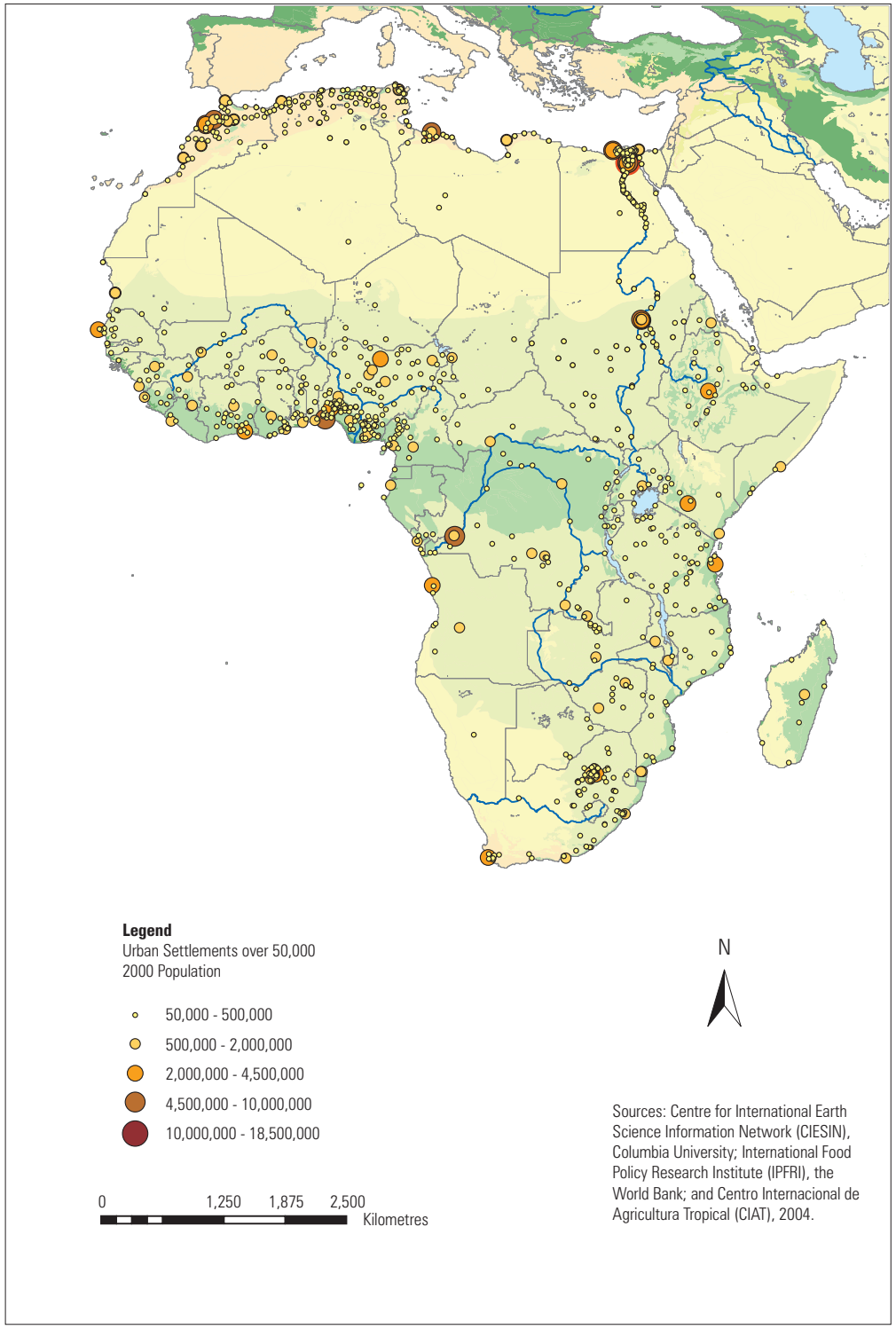
An overview of Nairobi City, Kenya 2007

Urban Africa – Urbanization Trends in Africa amidst Local and Global Constraints

An urbanizing continent

Data from UN-HABITAT[1] shows that in 2007, with 38.7% of its population living in cities, Africa was still the least urbanised continent of the world. However, it is also the one where urbanization is fastest. With a growth rate of 3.31 % per year, the urban population of Africa is expected to double from 370 million to over 750 million between 2007 and 2030. In East Africa, the world's fastest urbanising region, the urban population will double in only 9 years. In Southern Africa, where the population was 45.6% urbanised in 2007, growth rates are lower, but still far outstrip those of the rural population. In general, migrations from rural areas into cities comprise a reducing share of the new urban population while natural growth from within the cities now plays an increasing role.

Africa's three largest cities of Cairo, Lagos, and Kinshasa had more than 5 million inhabitants each in 2007, while over two thirds of the urban population reside in small and intermediate centres, below 1 million inhabitants, and 60% in cities of less than 500,000 inhabitants. The latter are the centres that are growing at the fastest rate. The African urban structure has two main characteristics. The first is the



African cities

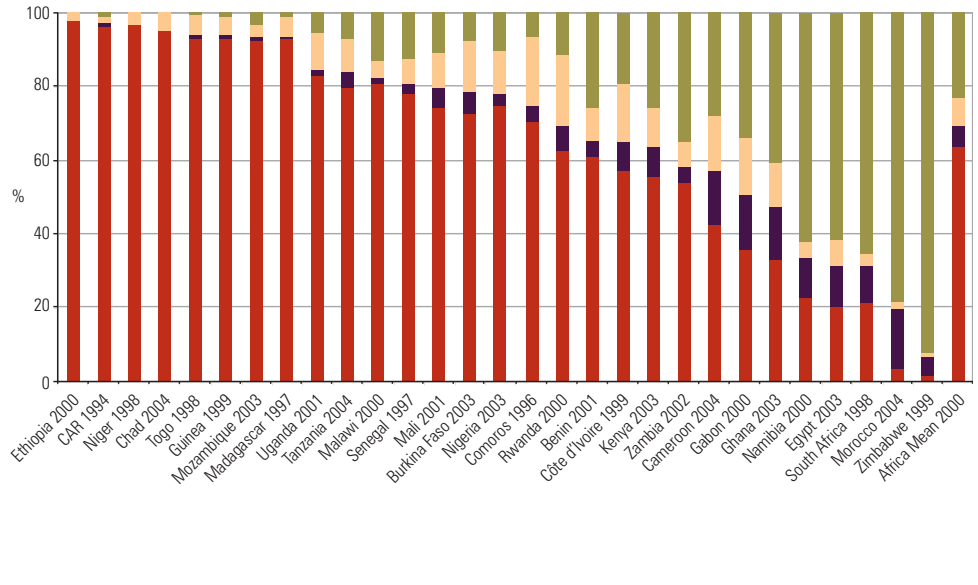
disproportionate concentration of population, activities, resources and investments in the largest city in the country to the detriment of other cities and towns. The second is the emergence of urban corridors, with large metropolises in relative proximity merging in huge regional systems (such as along the Gulf of Guinea or in the Gauteng Region in South Africa).

Despite these trends, national development policies have focused for a long time on rural development, aiming at reducing migrations. More recently the promotion of territorial rebalancing has aimed at retaining migrants in middle sized cities. But in general, urbanization has taken shape largely in a void of policy interventions. It has also happened in a context of low economic growth, and scarce financial and human resources, in general afflicted by weak governance, social strife and, in a number of countries, armed conflicts.

Poverty in the continent remains quite prevalent, with 40% of Africans living on less than 1 US$ a day and urbanization is to a large extent a poverty driven process, not the industrialization induced socio-economic transformation experienced by other regions of the world. Related to this, inequality is a characteristic feature of many African cities with centres such as Johannesburg and Nairobi displaying some of the greatest extremes between the rich and the poor.

As a direct consequence of this poverty fuelled urban growth, self-help urbanization and uncontrolled spatial development are key features of urban centres. All over Africa, the resultant slums[2] have grown at the same pace as cities as a whole. These informal settlements are home to over 61% of Africa's urban residents.

Graph slums



This ratio varies considerably from less than 20 % in countries in North Africa, to more than 90% in Sudan, the Central African Republic and Chad.

Nairobi Slum

Many countries in the continent lack urban policies that define the role of urban centres within the national development agenda and set a long term vision for their management and growth. Also, amidst a relatively slow process of administrative and political decentralization, only major cities, and possibly the capital city, have access to capacities and resources of a significant, if not adequate, scale. Moreover, in several countries corruption is deeply embedded in local government, affecting service provision, and other functions.

In general, planning and managing have also proven quite inappropriate – in particular, urban master plans proved incapable of controlling growth or providing for the associated infrastructure development. Plans were also not updated and not enforced, except for central areas in some instances, and continued to reflect colonial ideas, with zoning and other provisions being modified on an ad-hoc basis. In many instances urban plans have also been consultant (and donor) driven, while capacity to control, enforce and update them remained limited locally. Land management remained also largely unaffected by the plans, as corruption and customary practices remained widespread.

The result of this ineffective planning has been spatial fragmentation, land speculation and urban sprawl. Where economic development creates sufficient markets and interest for prime land occupied by slums, evictions for redevelopment are another feature of urban land management.

Despite this, the cities have continued to expand their economies and to provide real opportunities for their residents due to the presence and creativity of the urban informal sector, the concentration of population and functions, and the

opportunities for access to education, information and civic participation[2].

Urban planning innovations in the region

Acknowledging these opportunities and the important mismatch between available tools and needs, cities and countries across the continent have developed innovative approaches, which constitute a rich laboratory of experiences, and have produced lessons which should be documented and discussed more widely. These innovations have included urban governance mechanisms, as well as management approaches and urban planning. They also acknowledge that the overall traditional objective of urban planning – development control – may be unrealistic and even counter-productive in this context. In any case urban planning has not been able to deliver better cities and more equitable development, having instead created perverse effects and put large shares of the urban residents 'outside the law'.

The focus has, therefore, moved a great deal to how to link urban planning and development in a context of limited public resources and within the above-mentioned constraints. The linkages have taken various forms – strategic urban planning focused on priority issues and in many instances oriented to investment planning; integrated planning focused on coordination and rationalization of public action within a specific set of development priorities. Strategic urban plans with a specific entry point, and a city-wide scope have also been developed, through various initiatives, in particular looking at environmental management and at the prevention of violence and crime.

These forms of planning have emerged in the last few years. They initially focused on improving governance mechanisms around urban decision making through consultative processes aimed at identifying a shared development agenda. However, the approach has developed into a tool for focused planning of feasible urban development actions, concentrated on critical hot spots and responding to a shared vision. The City Development Strategy (CDS) approach[3] in particular focuses on investment planning and mobilization of resources, including locally available ones. Adopted by many cities across the continent, this approach has enabled – in the best cases – the development of ‚bankable' projects and served as an entry point for private and public investments, as well as donor support. CDS has also assisted in prioritising appropriate infrastructure and primary services, and the upgrading of informal settlements.

The Rapid Urban Sector Profiling and subsequent strategic action planning, promoted with European Union funding by UN-HABITAT in 54 cities in 18 countries in Africa, also utilises a similar strategic approach. It is focused on slum upgrading and prevention and on integrated actions at national and local level, on a number of sectors, including basic urban services delivery and housing, as well as land. Over time, it has also been adapted to respond to specific issues and priorities at local level, such as violence prevention, or disaster preparedness depending on local needs.

Strategic urban plans that have incorporated strong citizen participation and participatory budgeting approaches have managed to ensure more focus on the reduction of poverty and inequalities, as opposed to plans that have focused more on the economic positioning of the city within the national context and on the leverage of competitive advantages in this sense.

The success of these participatory planning approaches largely depends on the involvement and drive created by stakeholders' participation and on the institutionalization of the plans. As a more flexible and pragmatic tool than traditional master plans, strategic urban

plans have remained in many instances separate from the formal planning systems which still refer to master plans and related regulations, and maintain authority in terms of formal urban management. The reform of those planning systems has proved to be much more difficult in terms of governance, legislation and procedures. This, coupled with poor land registration and corruption, has created in some instances blockages related to land availability or long procedures. Strategic plans have also been implemented only to a limited extent, investments not always being easy to mobilise.

In the few example of reforms of planning systems in the region, when strategic urban planning has been merged with formal land use planning and master planning, as has happened in Egypt, this has created a powerful combination of strategic and land related instruments. However, the limited progress in decentralization and the limited availability of implementation tools at local level, including those related to financial planning and investment mobilization, still represent a major obstacle to implementation.

In South Africa, integrated development plans (IDP) have been introduced by law with a focus on interdepartmental coordination at the local government level. The IDP is a medium-term development plan linked to a five-year political cycle, although certain aspects of the plan, including the vision and the spatial development framework (SDF) have a longer-term horizon. The SDF is a city-wide descriptive plan, similar to a strategic spatial plan, and can indicate specific projects at local level. Its role is to coordinate spatially the sectoral plans, where line-function departments align their plans and projects. Its ambition is to change the way sectoral plans are developed and managed. However, these practices are still not fully developed and land use planning and zoning is not integrated in the system as yet, continuing often to operate through older and mostly outdated systems and ordnances.

While no final judgement can be made, this experience is very telling of the difficulties of modifying engrained mechanisms and introducing innovative institutional approaches, and this despite the relatively well endowed situation of South African local governments.

Despite such advances in both formal and non-formal planning, many cities lack up-to-date planning mechanisms and continue to rely on traditional master planning documents which fail to deliver what is needed.

African Cities and Climate Change

In Africa, the unprecedented challenges of the emerging climate crisis and energy crisis impose additional constraints on options for urban development, as they clearly indicate that the usual paths of development are becoming impracticable. They also reorientate the resource flow from outside the continent, as increasing priority is given to the offsetting of carbon emission, or to innovative projects in the field of environmental conservation, energy efficiency and technological innovation. The global economic crisis also results in shrinking financial flows towards developing countries. In general, this new conditionality finds many African countries and cities ill prepared and equipped, and coping with the huge backlog of services, housing and capacities and with the ongoing increase of the urban population becomes even more challenging. The next sections of this paper will try to look at how the global challenge of climate change translates in the African cities and how they are preparing to cope with it.

A marginal contribution to emissions, characterized by inequality and inefficiency

At present, Africa's contribution to global warming is insignificant, amounting to less than three percent of the world's total emissions of greenhouse gases. The majority of African countries emit only minimal quantities of 0.1-0.3 tons of CO2 per inhabitant per year. Despite the unavailability of disaggregated data, we may estimate that cities in Africa produce the largest share of GHG emissions of the continent, as is the case in other continents. By contrast, Germany's per capita emissions are estimated at 10 tons per annum. However, this admirable emission profile of African cities does not mean that they are models of environmental sustainability and efficient energy use. In fact, there are several facts that the bare figures do not directly tell about the situation and its possible evolution.

African emission level is directly linked to poverty levels and in particular it can be traced back to the low access to energy for the population (up to 80% of urban population does not have access to modern forms of energy) and low levels of industrial and productive activities. The overall limited scale of the formal building market for instance results in the large majority of the houses being built with poor materials, often recycled. Similarly few individuals own private cars and therefore the contribution of private vehicles to emission levels is limited.

However, the African urban elites (often less than 10% of the urban population) do have lifestyles and access to technologies and energy similar to those of any city dweller in developed world. At the same time, public services are inefficient (for instance as far as collective transport is concerned), and proper policies are lacking (which result in a large share of electricity produced using fossil fuels in many countries) and there is

limited awareness of environmental issues. In this situation, the urban elites and the growing middle class in African cities are as energy consuming as their counterparts in other parts of the world.

For instance, because of the limited availability or poor quality of public transport, coupled with urban sprawl, individual transport, when accessible, is the preferred transport mode to cope with the limited availability of collective services.

Air pollution in Lagos

In the case of buildings, the lack of regulatory framework, the limited access to technology and the adoption of design and planning models that are not appropriate to the climatic conditions create a huge demand for energy, particularly for cooling. This is the case even if less than 30% of the population lives in modern buildings, and the climate conditions would allow low-carbon energy options (in particular the use of solar energy). Finally, cities that have grown without proper land use and service planning, do not have open green spaces, lack waste management and sewage treatment plants, and the unchecked urban sprawl has depleted the natural carbon sinks and other ecological systems which have a climate mitigating role (such as wetlands).

Already many cities in Africa suffer from environmental degradation and inefficiencies related to the prevalence of badly maintained second-hand cars (as in Kampala, Uganda) and the bad state of roads, the use of fuelwood, charcoal or kerosene for cooking in most urban households, the lack of water conservation and recycling, the depletion of tree cover and the disappearance of open areas. Without specific policy choices, it will be the individual choices of the growing African elites, as well as the inefficient choices that the urban poor are forced to make for lack of options, that will have the biggest impact on emissions from the continent.

In a scenario of economic growth, and in a context of policy delay, emissions are bound to further increase as more people will be able to pursue unsustainable consumption patterns. Although these are marginal issues compared to the global patterns of emission, alternative models of consumption, mobility and production still need to be identified

and tested. These will only be acceptable so long as they provide for continuing human development and improvements to the lot of Africa's urban poor.

In this context, development patterns have to change and issues of mitigation and resource conservation should be addressed as part of the management of the growth of urban areas in Africa i.e. avenues have to be found that break the link between GDP growth and emission growth (or reduce the direct relation

Kisumu

which is prevalent in today's development patterns). In this way it would be possible to have a significant impact on the future scenarios.

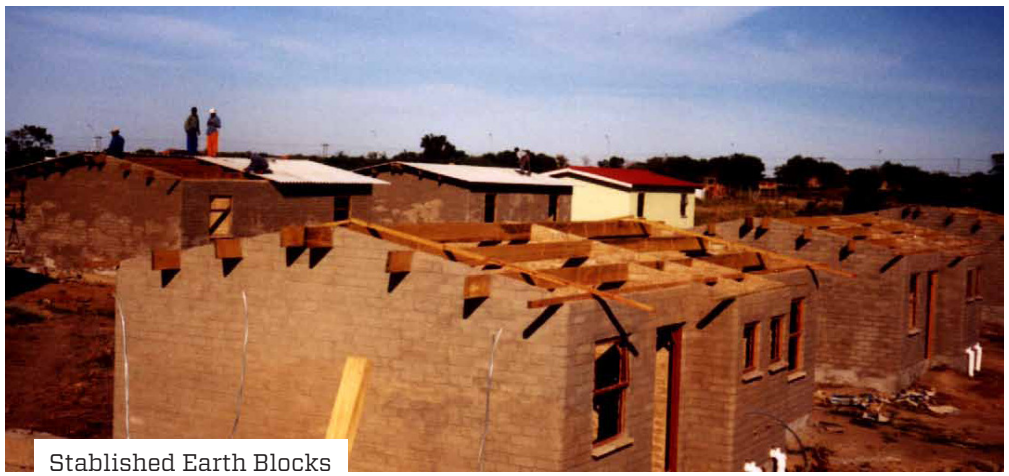
Cities in Africa are not well equipped to take up this challenge. There is only limited experience of approaches that have been able to address inefficiencies and inequities at the same time, and to access global funding mechanisms. For instance, the city of Dar es Salaam has accessed the Clean Development Mechanism (CDM) funds as part of its waste management initiatives under the local environmental management programme. This is one of the few CDM projects in the continent, and one of the very few in urban areas.

UN-HABITAT has been pioneering practices at city level in the continent, initially through its Sustainable Cities and Local Agenda 21 programmes, currently through the Cities and Climate Change Initiative. Through environmental planning and management projects, UN-HABITAT has supported city-wide environmental strategies, in which citizens prioritized support to non motorised forms of transport in Kisumu, Kenya, the reorganization of public transport in Dar es Salaam, Tanzania, and the improvements to the cycle of waste management (for instance through the introduction of recycling of materials in St Louis, Senegal), among many others. The experiences initiated by UN-HABITAT aim to the reduction of future emission, and of the emission of particular sectors (building, transport), linking service delivery and savings in GHG (waste, water, energy, etc.) and the promotion of green building practices in different countries in Africa. (see BOX).

Green Building Councils in Africa

Green buildings reduce carbon emission and also produce other environmental gains. Recently UN-HABITAT held, in collaboration with the World Green Building Council, an African workshop to discuss the dissemination of green building rating in Africa. The workshop highlighted the existence of several GBC in the continent, and discussed how to further develop the network of professionals of the built environment on green building, the specification of green building adapted to Africa, and support mechanisms. As a result several countries have initiated the development of national GBC and a regional African Network of Green Building Councils is being developed. The challenge remains of the limited size of the formal market in most countries to which such rating system could be applied, as well as the need for strong client awareness for the rating to be effective and grow as practice in the region.

First GreenBuilding in S.Africa Nedbank



Stablished Earth Blocks

In relation to energy efficiency in the housing and services sectors, interventions have focused on the development of regulatory frameworks and incentives for the adoption of energy efficiency and renewable energy in the housing sector (such as in Morocco, Kenya, Uganda, Tanzania, Burundi and Rwanda).

The challenge remains to bring interventions to scale (from pilot, to local and to national) and to enforce national policies. Experience of environmental planning has demonstrated that a systemic approach to city environmental management can maximise durable economic gains and minimise environmental impacts. Building on such experiences, which for instance have been promoted in several cities across Africa by the Sustainable Cities Programme and Local Agenda 21, local governments could integrate mitigation within urban development initiatives, monitor emission and assess in terms of emission the future plans and urban projects.

Unfortunately to date the understanding among urban actors and local governments in particular remains relatively low compared to the scale of the problem and of the opportunities for sound environmental management. Very few national reports on climate change refer to urban issues and, overall, there is inadequate awareness of the urban dimension of climate change in Africa.

High vulnerability to climate change impacts, and low response capacity

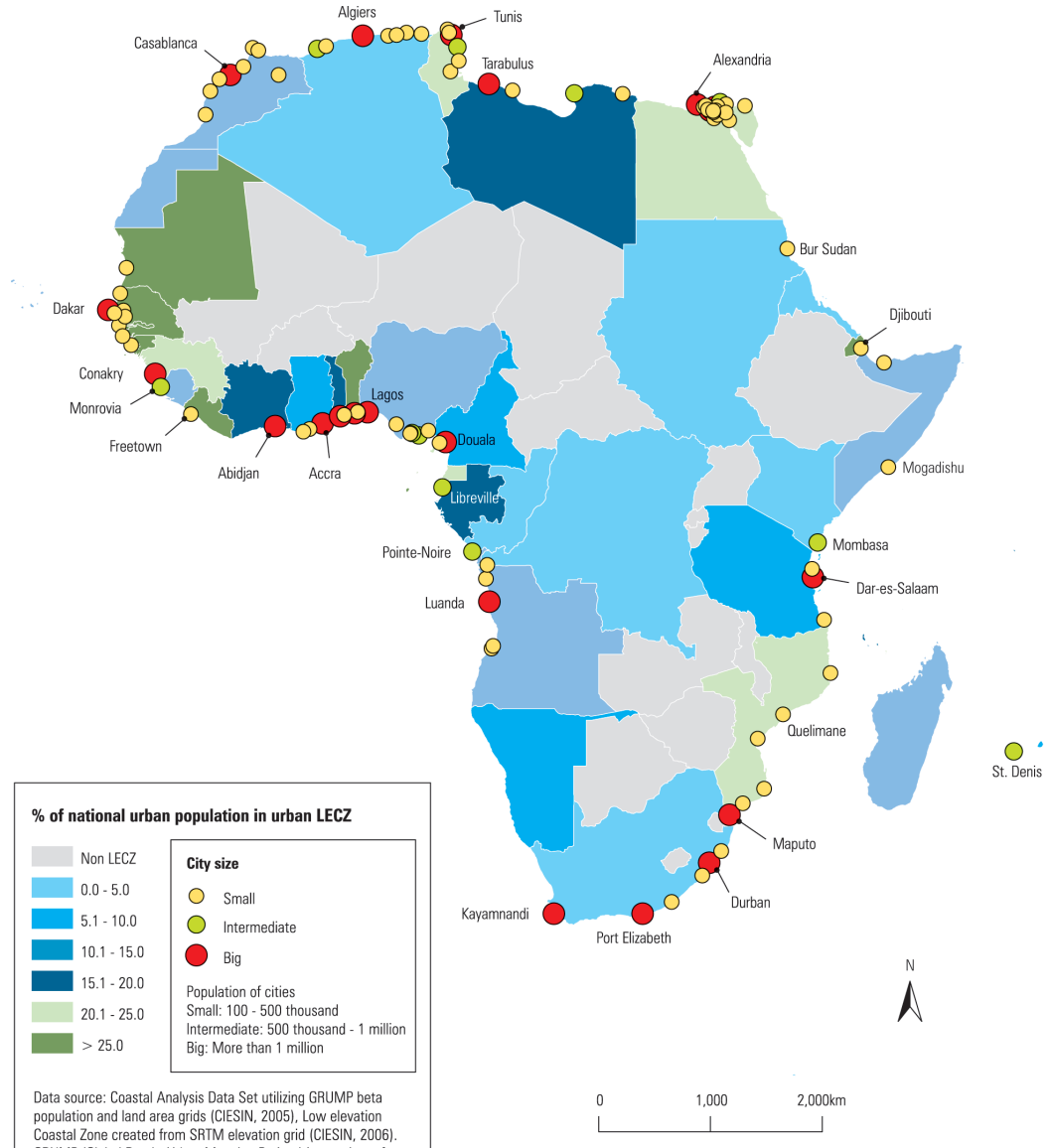
African cities are already feeling the impact of climate change and, although their contribution to it has been minimal, many have high degrees of vulnerability to climate change effects coupled with low response capacity.

Among the climate change impacts, cities in Africa are being affected by storms, tidal surges and flash flooding (also in countries with traditionally very little rain, such as Burkina Faso, Mauritania and Niger). Movement of populations due to drought has affected in particular southern Africa and the Sahel. Shortages in water supply are significant in the Arab states and in southern Africa. Food shortages or the increase in food prices, health problems related to shortage or pollution of water, as well as malaria are affecting cities across the region.

Banks of Nairobi River

Korogocho slum in Nairobi

Coastal cities are particularly at risk due to sea level rise. Numerous African capitals and major cities along the coast host some of the most advanced economic hubs, and a large share of urban population will be seriously affected by sea level rise. About a total of 10 million people would be displaced were sea levels to rise by 30cm, in Abidjan, Alexandria, Conakry, Cotonou, Dakar, Lagos, Luanda, Maputo, Mogadishu, Monrovia and Port-Harcourt[4].



Africa-Cities at risk

The vulnerability of African cities is due to many factors, among which poverty, the existent backlog in investment and infrastructure, the poor housing conditions and failed land markets, as well as the fragility of livelihoods and the great inequalities which are reflected in access to resources and opportunities, play key roles. Ecological systems are quite fragile. In addition, the uncertainty and coarse-grainedness of current climate change projections makes long range urban planning for climate change difficult[5].

Planning has in many cases failed to play a positive role in such contexts and its failure has exacerbated poverty and vulnerability. Corruption, land grabbing, vested interests influencing land use decisions, a lack of decentralization and consolidation of the urban management function at the local level, and often inappropriate planning approaches and lack of enforcement capacity have resulted in many cities expanding without decision-makers paying due consideration to risk (coastal areas, river beds, hills, slopes, etc.) or adopting unsustainable measures of environmental management (canalization of rivers, elimination of tree cover, etc.). The fact that urban expansion is made up to a large extent of sub-standard buildings compounds the existing risks.

In Africa's cities, infrastructure (roads, railways, energy and water distribution networks, or wells) and urban systems such as transport and mobility, or waste management are also particularly vulnerable because of their physical state and in some cases inadequate design.

In addition, African cities and their communities have limited preparedness to cope with the unexpected. Climate change impacts will affect the basic infrastructure. Social and economic impacts, in particular loss of livelihoods, will also be important. There are usually limited opportunities for those affected to move to alternative locations or to

Floods in Congotown in Liberia

reconfigure their livelihoods.

Vulnerability, therefore, in African cities is not just being closer to the disaster, but also being farther from appropriate response and recovery. In this sense even 'flash events' will have long term impacts. Indeed the amount of resources climate related crises and disasters will absorb will reduce the ability of African local governments and other actors to provide services, and will further weaken management systems.

Environmental risks & vulnerabilities in Kampala, Uganda

Located in Central Uganda, on the northern shores of Lake Victoria, Kampala is the Capital City of the Republic of Uganda. Covering an area of 195 sq.km and at an average altitude of 1120 meters above sea level, it is situated on about 24 low flat topped hills that are surrounded by wetland valleys, characterized by an imprint of scattered unplanned settlements.

Kampala City is faced with urban sprawl and increased growth of informal settlements and slums due to the ever increasing population pressure and inadequate land use planning. This has resulted in settlements being located in high risk areas especially those prone to flooding and poor sanitation. Due to the high water table, most of the wells/springs are contaminated mainly by fecal materials and this puts safe water coverage at about 55%. The situation is further exacerbated by the low collection rate of solid waste, which currently stands at 55% and causes blockages of the drainage systems in the city. Scarcity of urban land means that construction is taking place on the hill tops. The lack of water harvesting mechanisms and hard paving have caused degradation of the fragile hill slopes.
As a result, flash floods have become more frequent and violent and the city dwellers are exposed to water borne diseases such as malaria, bilharzia and other related ailments such as respiratory tract infections.

Source: UN-HABITAT Cities and Climate Change Initiative

Environmental risks & vulnerabilities in Maputo, Mozambique

The capital of Mozambique, is located in the south of the country, with an area of 300 km2, and a population of about 1 million (2007). With a density of 3700 hab/km2, the city held 45% of the total Mozambican urban population of which about 50% was considered to live below the poverty line. In Maputo, recent data indicate an increasing rural-urban migration contributing to higher poverty and vulnerability levels.

Coastal zones are the most affected by global warming factors including sea level rise. Maputo is no exception and suffers frequent flooding. The Avenida Marginal within Maputo City along the coast is gradually disappearing. There is also a reduction of sand strips throughout the beaches due to continuous movement of the sea, thus creating serious coastal erosion problems and impacting negatively on economic activities. Although Mozambique's contribution to the world's emissions is insignificant, global warming effects are starting to become visible in the Maputo municipality. The city's three islands located a few kilometers from the coast show clear evidence of climate change effects which include the

1) disappearance of mangroves (in the case of Inhaca Island, a reduction from 10 hectares to only 1 hectare);
2) slow degradation of water quality in wells thus contributing to potable water scarcity;
3) desertification due to drought, exposing sand dunes and worsening wind erosion, causing loss of coastline; and
4) lack of arable land for domestic agriculture.

There are clear signs that the sea level is rising, which creates expensive coastal management problems for Maputo City Municipality. The phenomenon is resulting in salt water intrusion, negatively impacting on agricultural activities, thus contributing to the current urban poverty.

Source: UN-HABITAT Cities and Climate Change Initiative

Adaptation to climate change in African Cities

Given the human settlement conditions and the level of vulnerability to climate change, adaptation is the most important response for the continent's cities. Adaptation needs to focus on the most vulnerable population and settlements. In many cases these are slums or marginal settlements, developed on unsuitable land, outside urban planning provisions, where climate change exacerbates pre-existent risks.

Risk assessment at city level is the first step to identifying those communities and parts of the city that are especially vulnerable. Experience has shown that these exercises can beneficially draw upon local knowledge of the environment; such participation can also result in higher awareness in the community.

A plan for adaptation and risk reduction, coupled with disaster preparedness and response, should include interventions directed to specific groups and parts of the city and its systems, as well as awareness, monitoring and alert mechanisms. Adaptation strategies will need to recognise the many uncertainties about how a particular area might be affected. They should have the capacity to respond both to immediate needs and to longer term concerns. In many cities, one of the priorities will be the improvement of water management beyond drought periods. This should include management of water demand, reclaiming and protection of buffer zones and green areas for water retention and run-off control, and management of waste and pollutants, sanitation improvements, improvement of drainage systems and water harvesting.

Land management to remove specific risks, such as through relocating vulnerable settlements, allocating uses that have a positive impact (parklands, urban agriculture, recreation areas), restoring specific ecosystems (mangroves in coastal areas) and protecting the coastline, are also an important part of adapatation efforts. More appropriate regulatory approaches and mechanisms to ensure unsuitable areas are not built up and occupied shall include the enforcement of 'no-invasion' policies of lands within the lowest parts of floodplains. The reclaiming of threatened areas also requires significant investment and well coordinated efforts involving various public and private actors, as in the case of Eko Atalantic City in Lagos, Nigeria. (BOX - Lagos Eko Atlantic City).

In addition, community resilience needs to be supported by improving health conditions and livelihoods. Participation and awareness and fair enforcement mechanisms are also crucial to avoiding failures such as the situation when residents who were moved to higher ground in Mozambique to protect them from floods returned to their original locations, making them vulnerable once again.

Cities and communities need to function well in order to respond to the challenges of climate change – to be able to absorb climate refugees, to withstand changing climate patterns, to recover from climate induced shocks and to be able to adapt. The fight against urban poverty and for better planned cities is therefore important in making cities in Africa resilient to climate change.

Despite the indifferent results of past planning approaches to limit disasters and direct development towards more sustainable patterns, the scope for a renewed role for planning is huge given the type of problems described above. It will be possible to reap an adaptation dividend from many poverty reduction interventions.

A broad adaptation agenda needs to consider several key dimensions of the cities of Africa to be relevant and sustainable.

First of all it should **work with informality**. This requires flexible and

Eko Atlantic City, Lagos, Nigeria

Over the years Bar Beach in Lagos has been steadily eroded until it was almost completely lost to the Atlantic Ocean. As efforts to stop the erosion had failed, flooding from surges of the ocean waters had started to eat up the major road running along the beach. To avoid the complete loss of Victoria Island, the Lagos State Government has embarked on a massive reclamation effort, to salvage and stabilise the beach and to turn it into a viable economic development. Eko Atlantic City, a new mixed use development project on Bar Beach involves the reclamation of 820 hectares of beachfront 6.5 kilometers long. The design of the new city will be a sustainable city, clean and energy efficient with minimal carbon emissions.

The urban design was produced by Dutch consultants, while an international advisory team is working with the developers and investors to oversee standards. Funding for the project is coming from private equity and loans from financial institutions, as well as the Lagos State Government.

The intervention is modelled on the sea reclamation seen in Dubai, and debate is still open on whether this model is sustainable in the present development constraints. In any case expectations are high that it will provide a permanent protection from water rise for Nigeria's major city and space for high quality urban services and infrastructure which are much needed in Lagos.

Source: www.lagosstate.gov.ng, and UN-HABITAT (2008)

supportive mechanisms which tap into the creativity and productivity of the informal sector and provide avenues for their better organization and contribution to urban development. This will not only strengthen livelihoods but engage the informal sector in innovation as actors of adaptation.

Secondly, adaptation needs to be supported by mechanisms that **guide urban growth in a proactive** way towards less vulnerable areas. Provision of suitable urban land on a large scale avoids the occupation of high risk areas and can reduce damage to valuable ecosystems. Once such mechanisms are in place, the enforcement of controls on land use in sensitive areas would be easier and less controversial.

Thirdly, the upgrading (and when needed, relocation) of slums, together with improved housing and infrastructure standards and access to services, are key adaptation strategies. Slum dwellers should be enabled to play a key role in these processes. Stronger communities and established practices of community involvement will also open more reliable and efficient channels for disaster response and awareness.

Finally, regulatory mechanisms should be seen as complementing the dynamic management and adaptation approaches. This requires a new focus on managing growth and change as opposed to regulating it – through strategy planning approaches that respond to and accommodate development.

Hergeisa Market, Somaliland

Urban Sprawl - Housing density Dar-es-Salaam

Linking Adaptation and Mitigation – A planning agenda for climate change Mitigation and Adaptation in Africa

In the scenarios of mitigation and adaptation presented above, it is clear that the international agenda, which is to a large extent focused on mitigation, differs from the immediate agenda and concerns of African cities.

Very aggressive reductions of emissions, through commitments made by the developed and emerging countries, would ultimately reduce the scale of the climate change threat for the region. However, some effects of climate change are now inevitable due to the temperature increases already recorded and African cities urgently need to be in a position to cope with these. They also need to identify development strategies that are compatible with lower relative emissions, in the long term.

Such convergence towards more 'green' development would allow African cities to truly leapfrog into the future, skipping the carbon intensive development model that has underpinned the growth and development of northern countries. In this respect, urban planning can play an important role. In particular it can act as a facilitator of the debate on development options and visions, taking into account the following points:

1. Climate change responses need to be pro-poor and integrated in the development agenda (i.e. provide explicit development gains). Climate change as an entry point can be linked systematically with other dimensions of development where the contribution assessed is not exclusively to climate change but more in general to environmental sustainability, social equity and economic growth and development. Concepts such as the green economy provide powerful integrative tools in this respect.
2. The Adaptation and Mitigation agenda needs to converge as long and short term objectives (adaptation in the short and long terms for current and future risks, and mitigation in the long term for future emissions) both lead to innovative urban forms, and development planning in a context of scarce resources. Given the unrealistic (because unsustainable) option of filling the development gap in conventional ways, green or low-carbon development opportunities are an attractive option in Africa.
3. Responses driven by the participation of stakeholders, which can make explicit the interests and conflicts related to resources and development options are more likely to achieve equitable development. Community participation approaches, as well as the strengthening of local actors, such as local governments, should play an important role.

Cities in Africa, with the support of the international community are moving in this direction, and some steps have already been undertaken.

It will be important to integrate climate change concerns in urban planning approaches, particularly in the new forms of planning mentioned in the first section of this paper, such as City Development Strategy and Urban Profiling. Both City Alliance and its main partners (World Bank and UN-HABITAT, together with UNEP) have plans to adapt the methodology of CDS in this sense. Revision of the Urban Profile approach, and of its formal adoption at country level (such as in Egypt), are also planned. In addition, UN-HABITAT is working to develop urban planning oriented guidance on climate change, for urban planners, and to promote methodologies for vulnerability assessment and for a greenhouse gases inventory (in collaboration with UNEP and the World Bank), for use by cities[6].

It is also crucial to influence simultaneously national policies and capacities, and international and national

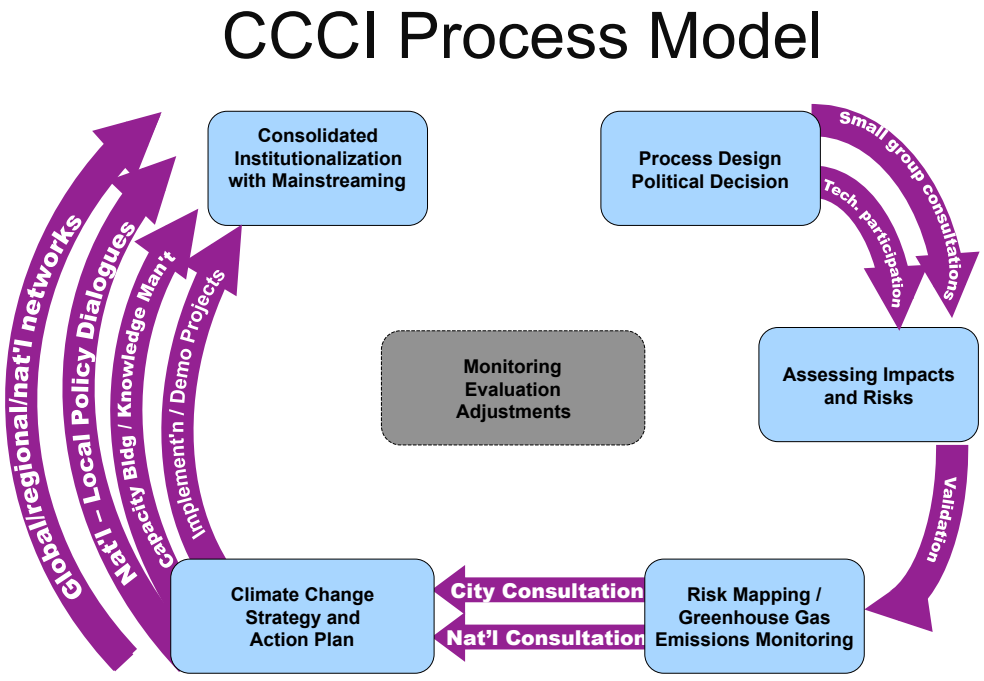
Community Meeting, Tanzania

Current Climate Change Response and Resilience in Maputo

The Maputo Municipality, in collaboration with a local educational and research institution, has very recently launched the Rapid Urban Assessment project which aims at evaluating the levels of emissions within the municipal territory as well as its surrounding areas. This assessment will facilitate rapid decision making on measures to be adopted to help fulfill the recommendations of the United Nations Framework Convention on Climate Change, without hampering economic activities.

Two new departments, for environmental inspection and management, respectively, have been created within the framework of the current restructuring of the Municipality to strengthen the role of the Municipal authorities in the enforcement of mitigation and adaptation measures. The current reconstruction of the National Disaster Management Institute will seek to address the gap between emergency humanitarian response and long-term reconstruction within the current disaster risk reduction government policies, strategies and institutional setting.

Source: UN-HABITAT Cities and Climate Change Initiative



UN-HABITAT work on Climate Change — Cities and Climate change Initiative (CCCI)

UN-HABITAT is focusing its work on climate change in the following areas:

- Advocacy, policy dialogue and policy change
- Tool development and application
- Piloting climate change mitigation and adaptation measures
- Knowledge management and dissemination, through, amongst others, the UN-HABITAT partner universities and the partnership with UN-HABITAT's Local Government Training Institutes Network.

Initially 7 cities in Africa (Kampala in Uganda, Maputo in Mozambique, St Louis in Senegal, Bobo Dioulasso in Bukina Faso, Welvis Bay in Namibia, Mombasa in Kenya and Kigali in Rwanda) plus Esmeraldas in Ecuador, and Sorsogon in the Philippines participate in the Cities in Climate Change Initiative as key partner cities. At the same time best practice from other cities around the world are being collected and will be promoted.

financing mechanisms. In particular, national dialogue linking national climate change mechanisms (in many countries facilitated by the Ministry of Environment) and cities, has been identified as a key precursor of more urban relevant national policies and plans. It is hoped that this will also result in countries preparing national reports that are more aware of the specific challenges of climate change in urban areas.

Finally, a great deal of attention needs to be paid to capacity development around these themes. Environmental management and planning experiences have proved to be a very good basis for climate change responses in countries of the North[7]. In Africa, Dar es Salaam with its long history of urban environmental management, is one of the few cities that has been able to access CDM funding. Capitalising on existing capacities, supporting human resources development within institutions, research bodies and the private sector, clarifying institutional mandates (and levels of decentralization) and ensuring that plans are embedded within supportive institutional and resource allocation mechanisms, are all important components of capacity building in this context.In line with the considerations discussed above, the UN-HABITAT Cities and Climate Change Initiative is working with several African cities focusing on awareness and policy change, localizing national climate change plans, the development of local relevant tools, and the testing of approaches and their evaluation and dissemination, together with relevant training (see box). Urban planners have the great challenge of being at the forefront of the longer term shaping of our cities, and of integrating the different concerns mentioned above within such a future. They also have the skills and experience for forecasting the impact of adaptation and mitigation approaches on the viability of cities in the future. All this knowledge is dearly needed to put in motion a transition to sustainable and climate conscious urban development.

Conclusions

The climate change agenda brings to the debate about, and to the practice of, urban development. a very strong environmental conditionality. In this sense, it provides a strong argument for urban sustainability to be pursued and planned for, and has indeed provid ed impetus for reflection and experimen tations on low-carbon and adaptation initiatives. It also makes available resources for the implementation of ap propriate climate change interventions.

Climate change as an entry point into the contemporary urban development agenda, is a potential vehicle for truly sustainable development. This will be possible if the long term priorities of urban development, short term adaptation and future mitigation are all factored in a robust and integrated response which is cognizant of the key demands and needs of the target cities.

If the climate change agenda is not reduced to mere accounting for GHG and mere reinforcement of infrastructure size (both in themselves important components of any climate change response strategy), but is used as an opportunity to rethink development mechanisms and to reinvent urban sustainable development in its more holistic sense, there will be gains on more than the climate front and better cities for all.

Climate change is objectively a serious challenge for African cities, and a key threat to sustainable urban development at all scales. At the same time, the 'climate change conditionality' is becoming central to development aid, as well as to private investment, and will soon become an important criterion of the offer of options to the growing number of individuals seeking access to better services and goods. In the capacity to adopt more climate sensitive

patterns of urban development, housing, mobility and consumption in general, lies the opportunity for developing world cities, and for Africa in particular, the possibility of addressing future challenges and of accessing new development opportunities.

The fact that such an opportunity is only being slowly taken up by Africa is just a further indication of the need for more attention to long term trends and prospects in a continent beset by recurrent crisis and an emergency culture, even when talking of urban planning[9].

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Endnotes

1. Data are derived from UN-HABITAT (2008), State of African Cities 2008, Nairobi and UN-HABITAT (2009) Global Report on Human Settlements 2009, London, Earthscan
2. UN-HABITAT definition of slums is that of a contiguous settlement where the inhabitants are characterised as having inadequate housing and basic services; a slum is often not recognised and addressed by public authorities as an integral part of the city. The definition of slum households is a household that lacks one or more of five elements: access to improved water, access to improved sanitation, security of tenure, durability of housing, and sufficient living area.
3. Kassides, Christine (2006), The Urban Transition in Sub-Saharan Africa: Implications for Economic Growth and Poverty Reduction, Washington, The City Alliance.
4. The City Development Strategy approach has been developed and supported by the City Alliance, a joint World Bank and UN-HABITAT initiative addressing urban development and slum upgrading with support from several donors.
5. Data from Center for International Earth Science Information Network (www.ciesin.org) elaborated by UN-HABITAT Global Urban Observatory. Quoted in UN-HABITAT (2008), State of African Cities 2008, Nairobi
6. UN-HABITAT, UNEP and The World Bank jointly developed 'Draft International Standard for Determining Greenhouse Gas Emissions for Cities' was presented and discussed at the World Urban Forum in Rio de Janeiro in March 2010. It is available at: www.unep.org/urban_environment/PDFs/InternationalStd-GHG.pdf
7. This is discussed in: Robert Kehew (2009), "Projecting Globally, Planning Locally: A Progress Report From Four Cities in Developing Countries", in Climate Sense, World Meteorological Organization.
8. Cases such as those in Portland or Malmo presented in the Review 05 Low Carbon Cities testify to this.
9. Copyright for pictures: Picture on p. 62 (c) GLH Architects, p. 73 (c) TAWLAT, all other pictures (c) UN-Habitat.