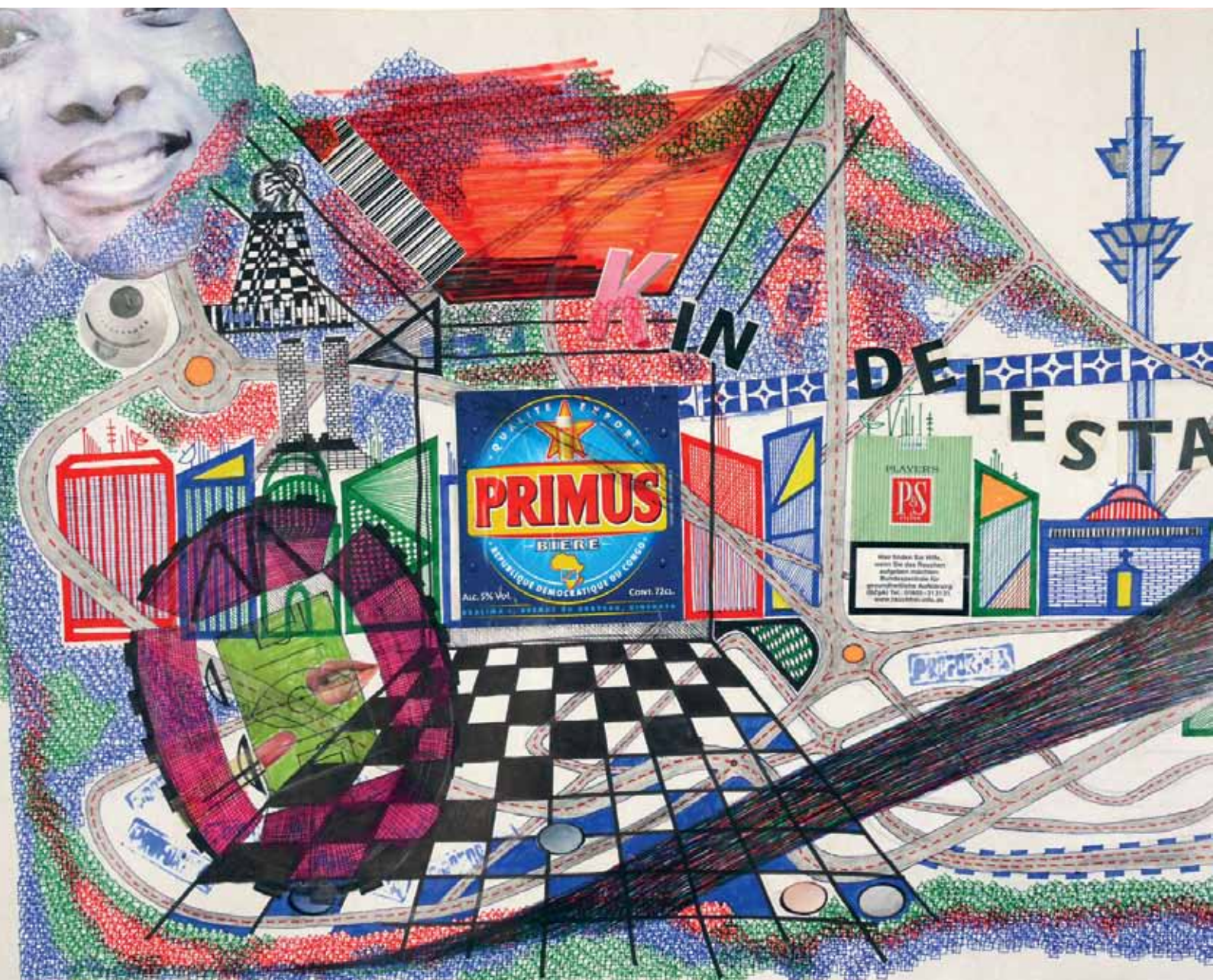


PERSPECTIVES

Political analysis and commentary from Africa



WHAT ARE SUSTAINABLE AFRICAN CITIES?

HEINRICH
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Heinrich Böll Foundation – Africa

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Editorial

What Are Sustainable African Cities?

While Africa's average level of urbanisation still lags behind that of the developed world, the world's fastest growing cities are in Africa. The 2010 State of African Cities Report indicates that Kigali, the capital city of Rwanda, grew at an annual rate of 8.6 percent between 2000 and 2005. The United Nations Human Settlements Programme estimates that 40 percent of Africa's population lives in urban areas. By 2030 this figure will have climbed to 50 percent, and is projected to rise to 60 percent by 2050.

In absolute figures, the continent's urban population will triple from 395 million to 1.23 billion people between 2009 and 2050. Growth in sub-Saharan Africa is particularly strong, with South Africa's population already 61.5 percent urbanised. In the next ten to fifteen years the population of Nairobi could double, while Addis Ababa is expected to grow by over 60 percent. Lagos will become the largest city on the continent, surpassing Cairo.

The message these statistics convey is clear: African governments and their development partners cannot afford to ignore the rapid urban transition taking place across the continent. However, finding and implementing solutions to the overwhelming challenges involved is daunting, even more so in a context where diverse development priorities and objectives must compete over scarce resources.

The growth of African cities is typically reflected in the growth of their slum settlements. This means that most of Africa's new urban dwellers will reside in an urban fabric characterised by low employment, shoddy building material, housing construction on unsuitable land, poor sanitation, and inadequate access to water, energy, health and education services. Under such conditions, urban sustainability depends on African cities implementing mutually reinforcing social, economic and environmental decisions and actions.

It also demands careful consideration of the technological and infrastructure change trajectories that these cities adopt. Technologies that are promoted without adequate assessment of their social, economic and environmental contexts run the risk of failing to deliver on developmental objectives - namely, to make African cities more sustainable, equitable and liveable. An integrative approach to urban development is key to achieving sustainability objectives.

This edition of *Perspectives* asks, "What are sustainable African cities?". In so doing, it offers a snapshot of Africa's urban sustainability challenges, ranging from tensions between heritage and urban renewal in Addis Ababa to building climate resilience in poor African households. We look at issues such as urban fragmentation through private-sector led developments that create "islands of privilege" in a "sea of poverty".

This edition also highlights selected sustainable development initiatives offering innovative solutions that are sensitive to the overwhelming challenges posed by urban African informal settlements. The Floating Cities Project, for example, was inspired by the informal fishing community of Makoko which was built into the lagoon waters of Lagos. It offers an urban development vision for coastal African cities that allows for "maximum urbanisation with minimum means" in a context of rapid urbanisation and climate change.

Importantly, the articles gathered here advocate sustainable development approaches that build the urban political constituency, and catalyze its participation in decision making and in-situ development processes in the vast, densely populated informal settlements that characterise African cities. Physical and political sustainability within urban governance and planning frameworks is critical in order to bring the urban poor into planning, finance and political decision making processes at the local and national government

levels, as well as in international development agencies.

By 2030, two-thirds of Africa's total population will likely be under the age of twenty-five. This projection adds urgency to the need to engage hitherto marginalised youth - a task that African authorities seem hardly equipped to tackle.

Whether marginal youth, women in slums, or poor communities in general, the urban poor must be empowered by harnessing their agency, while at the same time ensuring that institutions fulfil their responsibilities. The alternative is to continue reducing Africa's growing urban population to recipients of development aid.

This issue of *Perspectives* addresses some of the issues at the core of this dilemma. There are of course no "blueprint" solutions, especially in the

diverse and varied range of African urban contexts. Nonetheless, it is our hope that the articles in this edition can contribute some lessons, reflections and ideas to help map a way forward in tackling the challenges of sustainable growth and development in African cities.

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Inclusion:

A Sustainability Agenda for African City Growth

An old South African song of the anti-Apartheid struggle is called “Meadowlands”. It commemorates a forced removal of many black and coloured people from the bustling, multi-cultural neighbourhood of Sophiatown in Johannesburg to the suburban township of Soweto in the late 1950s. The creolised *tsotsitaal* lyrics echo through the African continent’s historic urban transformation, which is well underway today: *Ons daak nie, ons pola hie*. “We are not leaving, we are staying right here.”¹

Inclusion. A place to call home. Such are the essential challenges that urbanisation has evoked for ordinary people and communities throughout the continent. The lessons emerging from both the successes and challenges of city growth in Africa suggest that developmentally sound approaches hinge on the extent to which ordinary people are incorporated into the financial flows, planning institutions and political processes by which it takes place.

Yet these lessons are not part of the dominant understanding of processes of urbanisation and development in Africa. This is true whether we look at the worlds of academia and theory, or the worlds of policy and politics. The urban population in Africa has almost tripled in fifty years, and this has been accompanied by a proliferation of informal settlements that lack access to basic services such as water and toilets, land tenure, housing and formal employment.² These inequities are the overwhelming experience of the continent’s young, urban population. Over one-fifth of Africa’s population is between the ages of fifteen and twenty-four, and in eastern and southern Africa, this proportion rises to one-third.³

Building a Strategy

Economic inequalities track closely with political exclusion. In truth, approaches such as “participation”, while common to the sustainability agenda,

If we can generalise at all about African cities – a questionable task in and of itself – then the image of fancy skyscrapers rising next to sprawling informal settlements perhaps best represents this process.

carry little weight in the big decision-making flows that actually impact on African urbanisation. Instead, they have been watered down to mean either a) consultation with ordinary people and communities on projects and programs that have already been conceived by large actors in government and the private sector, or b) the ability of communities to hold such actors accountable for promises after they make them.

“Political sustainability” – a broad notion of social and economic inclusion – coupled with environmental sustainability, is quite simply not the dominant paradigm of development and urbanisation in Africa. If we can generalise at all about African cities – a questionable task in and of itself – then the image of fancy skyscrapers rising next to sprawling informal settlements perhaps best represents this process. Economic and political inequality, environmental degradation and social insecurity are all too common as part of the urbanisation process in Africa.

So the task is twofold: first, to understand what we mean by “sustainability” in the first place; second, to strategise for embedding “sustainability” in the influential agendas that drive African urbanisation in the present and for the future. Such an approach has to link housing, land and employment in order to build inclusion into the urbanisation process. It also has to identify where



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the kinds of citizen groupings and organisations are emerging that allow for more responsive approaches to this triangle of needs.

Finance, Planning, Politics

The exclusion of the urban poor from planning for growth implicates three major trends.

First, the financial arrangements that determine urban development are exacerbating divides of inequality in terms of access to services, land and employment opportunities. Little finance is allocated in either national or international aid budgets for the upgrading of informal settlements. Local governments struggle to collect property and land taxes, and have little financial discretion to direct resources to the upgrading of informal settlements.⁴ Urban development is still an unpopular policy orientation, and the money that is directed at poverty alleviation continues to exhibit “rural bias”.

Meanwhile, the finance available to industrial and real estate development in urban areas has a sharp tendency to not benefit the people and interests that fall outside of the formal sector.

Take two examples of spatial disparities in East Africa, which demonstrate the stark inequalities of financial flows to African cities. In Dar-es-Salaam, Tanzania, over 70 percent of households are on land whose ownership rights the law does not recognise. In other words, the vast majority of the city is “informal”.⁵ Even starker is the situation in Nairobi, where recreational space occupies more total land than do slums. Sixty percent of the city’s population lives in slums.⁶ While the formal world is accessing finance and the power it accompanies, the populations that are growing most quickly in African cities experience deeper exclusion.

Second, the institutional arrangements and planning processes that impact on urbanisation

Protestors from the Abahlali baseMjondolo, a South African shackdwellers’ movement
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build and reinforce inequalities. Planning standards condemn informality in contexts where governments need to embrace and integrate informal populations. Participation is all too often a byword for using the poor as a means of an *ex post facto* rubber stamp of consent after key decisions around project conception and even implementation have been made by governments, private investors, and external aid agencies.

The challenge is not only a question of whether there is a moral need to include the poor, but even more, a question of how responsive existing institutions are to changes on the ground. The financial flows of urbanisation in Africa currently override the shaping capacity of institutions, especially in both local and national governments. The imperatives of private developers and corporations override the potential for the state to intervene effectively to mitigate the negative effects of the market.

In a sense, this is another version of how economist Joseph Stiglitz described what has happened to Western financial institutions in the wake of the 2008 financial collapse, in which processes of economic growth have been “privatizing gains but socializing losses”.⁷ Charles Sabel and Sanjay Reddy have identified the key institutional problem as an inability to “learn”.⁸ Hence they propose steps for “learning to learn”, a method for examining the constraints of both supply and demand that policy-makers and institution-shapers must address. This means identifying new problems for policy, and opening up decision-making to be more accountable and, in fact, empirical.

Yet this can come off as pie-in-the-sky dreaming. Cities in Africa are a crucible for both the new global order of nations and new institutions that make the decisions that impact on economic growth patterns. In such areas, as Mark Swilling, director of the Sustainability Institute in South Africa, recently noted, institutions and ordinary people alike require “the ability to learn and unlearn very quickly in the blink of an eye as context shifts”.⁹ How can Sabel and Reddy’s “learning to learn” framework possibly address this reality?

The third and related cause of exclusion, and the necessary impact of inclusion on the sustainability agenda, concerns the political processes of urbanisation in Africa. In essence, the current exclusion of the poor from decision-making,

Participation is all too often a byword for using the poor as a means of an *ex post facto* rubber stamp of consent after key decisions around project conception and even implementation have been made by governments, private investors, and external aid agencies.

project conceptions and fundamental re-imaginings of city development fundamentally impedes a more responsive set of institutions along the lines of “learning to learn”. When the urban poor are considered objects of developmental decisions of others – when ordinary people are a nuisance to be ignored or evicted – informality continues to hinder economic growth and the development of social fabric in cities.

Most poverty alleviation approaches are focused on supporting individuals and households to achieve basic human needs. But from the sustainability perspective – understood broadly – this actually undercuts the need for political inclusion. Given the constraints on political agency and economic opportunity that exist among many communities of the poorest of the poor, representative organisations of the poor are of particular significance.

It is therefore time to pay more attention to the kinds of popular institutions of the poor that can be effective at influencing formal institutional structures. These exist in many parts of the world currently undergoing rapid urbanisation. Even those cities that are not in Africa offer significant learning opportunities for alternative political approaches. A few different types include a) city-wide community networks of informal settlement dwellers in Thailand that work with a government program for slum upgrading called Baan Mankong; b) street committees in places like Karachi, Pakistan, that work with local government through the Orangi Pilot Project; and c) national and city-wide slum dweller “federations” in many countries in Africa and Asia, that are part of a global network called Shack/ Slum Dwellers International (SDI). In all of these cases, the most important lesson concerns the ability of government, especially at the local level, to reform existing institutions or create new ones that allow

communities and officials to speak with each other as equals and to make decisions jointly.

Investing in Community Organisations and Networks

With this triangular framework for understanding the challenge of the sustainability agenda as it pertains to urbanisation in Africa – finance, planning, and politics – we need to begin understanding the strategy for actualising such an approach. We need to get deep into the real-world practices that, over time, cohere to create this kind of impact-driven approach to sustainable urbanisation. The notion of “learning”, as Sabel and Reddy, amongst others, have put it, is useful for describing how small changes in institutional practice can be geared towards exactly this kind of high impact.

In particular, we need to consider the lessons of communities that are actually involved in a learning process with elements of local bureaucracies. These relationships help to develop alternative mechanisms for delivery *and* to construct deeper bonds of citizenship through the links of community associations with state bureaucracies.

An instructive case is a set of interactions between community associations and low-level bureaucrats in the Informal Settlements Unit of the Department of Housing in the municipality of Stellenbosch in South Africa.

The informal settlement of Langrug is home to about eighteen hundred households, according to a community-led household survey in 2011. The settlement had gone with approximately forty toilets for all eighteen hundred families for many years. In 2010, a rich landowner nearby threatened to sue the municipality for the polluted runoff coming from the settlement on to his property.

The rich were making the claim in this case. But it is the poor who have gained attention from the claim. The municipality had long tried to provide services to Langrug through ad hoc, top-down methods. These previous attempts had been met by vandalism and destruction, as the community felt that there was no consultation about the needs or priorities of the settlement.

Over 2011 and 2012, both the community and low-level bureaucrats have changed. The bureaucrats visit the community much more often and sit in joint meetings with community leaders to plan improvements for the settlement. The city has also begun employing community members,

who work on upgrading projects through short-term public works programs. In just a year, the community has achieved more toilets and water points, reorganised shacks near small flood plains in the settlement, and cleaned drains. The community and city government have begun working together to formalise the settlement and provide land tenure to residents. The community has also begun to alter and deepen its governing structures in the wake of its new experience in working with local government. Leaders have created smaller block committees, as well as issue-based committees (e.g., to plan for a new community hall that will serve a number of businesses and social organisations, and a health committee).

These lessons echo throughout the country and throughout the world. Langrug is linked to the Informal Settlement Network, a social movement that is part of the global SDI network. SDI has therefore used its international reach to bring communities and city officials from elsewhere in South Africa, and from other countries in Africa and Asia, to learn from the approach that the Langrug community and the Stellenbosch authorities have been exploring.¹⁰

Merging the “Top” and the “Bottom”

From the perspective of actors working at the “bottom” of urban politics – community organisations, professional NGOs, legal advocates –

An aerial view of Dar es Salaam, Tanzania
© Brian McMorrow



An integrated approach to sustainability will embed the human need for belonging to place, to land, and to community, within the broader processes of urbanisation.

“sustainability” too often turns into small projects that appear sustainable, but that do not make any impact at the large scales of financial flows, planning institutions and political processes. Without an articulation of precisely this sort of impact – a broad theory of change to achieve sustainable urbanisation in Africa – we cannot expect to see sustainable cities emerge from the urbanisation process well underway. Often this means that the “bottom” needs to be prepared to find new modes of working with large “formal” actors, especially the state.

From the “top”, the sustainability agenda demands the inverse of such a critical perspective. National and local governments in Africa have struggled to build in the adaptive responsiveness required to deal with rapid change in populations, built environment and economies. Those that have are learning to develop *and invest in* partnerships with community-based groups and organisations, especially those that constitute themselves at the city-wide level. This is not the simple decentralised model of private-public partnerships, but an approach to partnership that leverages the strategic strength of the grassroots to strengthen public institutions in their ability to perceive and adapt to the rapid changes of urbanisation.

“Path-dependent” views of development have

long suggested that historical and especially colonial legacies condemn people in Africa to overwhelming poverty and suffering. Consequently, intervention by aid agencies, multilateral institutions, private actors and national governments has too often manifested in a context that either ignores these legacies and “path dependence” altogether, or assumes that their outcomes make the urbanisation of poverty a historical *fait accompli*. This mix of hubris and fatalism has led to flows of funds, institutional designs and political power that not only ignore, but actively exclude the poor. Ordinary people continue to persist as objects of interventions by those who are much more powerful, and therefore have little voice.

So we return to the old South African song, “Meadowlands”. Such a collective plea for belonging needs to underpin the sustainability agenda if it will be able to impact on an alternative view of urbanisation in African cities. This means investing in the capacities of communities, just as much as it means investing in the projects and programs that are geared towards achieving the physical “outputs” of inclusionary development: basic services, land, housing, employment.

This also means investing in community organisations, and the networking of these organizations – especially at the city-wide scale – in order to build the political processes at the city and national level that can achieve such physical outcomes. An integrated approach to sustainability will embed the human need for belonging to place, to land, and to community, within the broader processes of urbanisation. This may be our only path to upending a phenomenon that, in Africa, has thus far exhibited all-too-prevalent tendencies of exclusion.

Endnotes

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Interview

Developing Local Heritage for Green Urban Futures

Like many cities in the developing world, the Ethiopian capital, Addis Ababa, faces considerable challenges: rapid population growth, a massive housing shortage, rising traffic congestion and increasing pollution. As the municipality has begun to revise the city's master plan, the Heinrich Böll Stiftung (HBS) asked a team of urban planners to develop a vision for a socially and environmentally sustainable Addis Ababa in the year 2050 (see box on page 17).

In this interview, renowned architect and historian Fasil Giorghis reflects on the importance of respecting local traditions in the plans for future urban development.

HBS: Addis Ababa is celebrating its 125th anniversary this year, and looks back on a unique history. What are the characteristic features of the city – and how can its heritage be preserved for the future?

Giorghis: One distinguishing feature of Addis Ababa is what we call *mixcity*: the fact that in most districts, people of different social classes live side by side as neighbours. This has its roots in how the city was founded – not with lofty, grand ideas of building a city for colonial purposes, and without any tradition of urbanity.

Addis is a truly indigenous city, founded in 1887 by Emperor Menelik II at the height of his territorial expansion toward the south. Ethiopia had a tradition of moving its capital frequently, and it was with this in mind that the settlement was planned. The nobility took up residence around the imperial palace, each dwelling with its own private compound surrounded by housing for lesser relatives, servants, workers and soldiers. These people all needed each other, and thus lived in close proximity.

As Addis turned into a permanent capital this structure remained, and people of different social classes – while maintaining their separate family compounds – developed strong social cohesion as neighbours. The extremely low crime rate in Addis is one result of this. Unfortunately, old neighbourhoods

One distinguishing feature of Addis Ababa is what we call *mixcity*: the fact that in most districts, people of different social classes live side by side as neighbours.

in the inner city are currently being demolished as part of the urban redevelopment plan, which means gradually losing the unique *mixcity* of Addis.

HBS: Most families from the inner city are resettled in new condominiums. While some families are happy about their modern houses, others complain. Can you explain why that is?

Giorghis: The successful social housing schemes are the ones that are not far from people's original neighbourhoods, the places they knew and the social networks they had. The most unsuccessful ones are the ones that took people very far away, to the outskirts of town, where very few social, commercial and other services are available. Also, some of these people have been employed in the informal sector, so employment becomes extremely difficult to find. The closer you are to the centre, the more easily you can find a job. Family size is another matter. Large families with many children and relatives do not fit into the small condominium apartments – these groups are unhappy.

HBS: The city is modernising at incredible speed. Entire neighbourhoods in the city centre are being levelled and replaced by new buildings – but there don't seem to be any new parks, soccer fields or other public spaces. How does that impact on life in the city?

Giorghis: For many decades, the open spaces in Addis were not planned; they were simply "left over" spaces. People started using them for recreational and cultural purposes, but they never had a formal status. As long as people had their own piece



Fasil Giorghis

Fasil holds the Chair for Conservation of Urban and Architectural Heritage at the University of Addis Ababa. In his own architectural work, he promotes local materials and blends indigenous knowledge with contemporary design.

of land in their compounds, nobody thought of protecting them when the authorities stepped up development projects during the last fifteen years.

From the government's perspective, open land is wasted land that should be put to good use for the country's development. There is, of course, a big housing shortage, and the government is trying hard to provide more accommodation. But in the process, the open spaces have been shrinking while at the same time, the traditional compounds are being replaced by multi-storey housing schemes. The children now play on asphalt roads because the soccer fields have gone – and churches are complaining that the spaces for their traditional outdoor ceremonies have disappeared. People are already starting to feel the need for public green spaces; but the worst consequences will only be realised in the future, when it may be too late. I would like to see the ongoing urban renewal integrate the former "leftover areas" as protected public spaces.

Instead of just new residential buildings, I would prefer to see the emergence of new urban sub-centres providing all services: schools, health centres, markets and basic administration.

HBS: The key feature of cities today is density – the gathering of people, ideas and services in a small space. However, the new high-rises are also destroying social fabrics. Are there other ways of densifying cities that respect organically grown social structures?

Giorghis: Density is a very tricky thing. Yes, high buildings contribute to increasing density – but the advantages of going higher are relative, and at a certain point they are no longer there! A high-rise building obviously has to accommodate a lot more people than a low-rise, and thus increases traffic flows around it. In some cities, the infrastructure needed to accommodate this additional traffic can be moved underground, for example by building subway trains. In Addis Ababa, underground construction is not possible because of the difficult topography and high costs. Thus, roads have to be

widened and parking lots must be built – taking up a lot of additional ground space and thus actually reducing density! There is an optimum height for maximum density, but it depends on local circumstances and is different everywhere. In Vensenne and old North African towns, for example, they have reached a very high density without exceeding a building height of four floors.

For Addis, I would suggest mixed buildings with maybe between two to four floors in most parts of the city outside of the main streets and the Central Business District area. This would also have a positive effect on protecting the mixcity. Construction costs are a lot more expensive for high-rises, and are thus unaffordable for lower-income groups – which describes the large majority of people in Addis. More cost-efficient lower buildings would allow people of different income groups to remain in the same neighbourhoods. Urban planning should not only focus on increasing density; it also needs to take into account economic and social benefits, as well as the environmental quality of housing.

HBS: City development in Addis Ababa seems to follow the ideal of functional separation, thus increasing the distances between homes, workplaces and cultural centres – and so also the need for transportation. However, most people do not have any means of motorised transport, and travel on foot. What do you think will be the consequences, and how could negative effects be avoided?

Giorghis: The consequences are clear. People will have to spend much more time and money on commuting. The cost of living will increase, valuable time will be lost and the quality of life will worsen. Functional segregation is not in line with the traditional way of life in Addis Ababa. It is an imported trend. Some planners might believe it is modern, but people are starting to feel the negative impacts, such as increased traffic congestion and air pollution. Social problems such as crime will also increase. Where people have been resettled in the suburbs, far away from employment opportunities, you find a lot of desperate, angry young people turning to crime as a source of income.

We have to restructure the city from a holistic point of view. Rather than focusing exclusively on housing, we have to take into account the diverse range of people's activities and the services they need. Instead of just new residential buildings, I would prefer to see the emergence of new urban



sub-centres providing all services: schools, health centres, markets and basic administration. New housing can develop around these sub-centres. People would no longer have to go to the main city centre for their everyday activities. Demand for traffic would go down, and an increased identification with one's neighbourhood would encourage people to get more actively involved in their own communities and participate in local decision-making.

HBS: Cities around the world that for decades have favoured cars over people are now struggling to ban them from their centres. A former mayor of Bogota once said, "A rich city is not where poor people have cars, but where rich people use public transport". Today car ownership is still very low in Addis, but given the poor public transport system, most people dream of buying one. Is there a way for Addis to leapfrog into becoming a car-free city?

Giorghis: Car ownership is not just about transport – it is also a status symbol. The number of car owners is still quite small, but continues to rise steadily. If this trend continues without proper planning, traffic will become chaotic and messy, and will negatively affect the quality of life. To avoid this, we need to restructure the city. Restructuring doesn't necessarily mean tearing down existing buildings; it would be enough simply to re-create the multiple city centres we had in Addis a hundred and twenty years ago. Then we would have a chance that people would just walk to most of the services they need. For those needs that take people to other sub-centres or the main city centre, we would have to provide efficient public transport running on clean, renewable energies. This is not impossible if we really put our minds to it and re-plan Addis in this way.

HBS: Like many other rapidly growing cities, the municipality of Addis is trying its best to improve the

*Plan of a pedestrian zone through the Sidist Kilo university campus
© HBS / EiABC*

life of its inhabitants, but is constantly running behind the demands of an ever-increasing population. At the same time, the services delivered are often not exactly what the people need – for example, most families moving into condominiums tear down walls and build new ones to accommodate their needs. Are there better ways of using resources?

Giorghis: With its declared aim of providing housing for everyone, the Ethiopian government has put a big burden on itself – a burden it cannot carry with its existing resources. Experiences from around the world demonstrate that no developing state can provide enough housing for all of its people. I am not even talking about very poor countries, here – this is also true for middle-income countries.

We should not try to make the impossible possible. Instead, we should ask ourselves, *How can we reach more people with less money?* Instead of providing standardised, turnkey housing that doesn't fit individual needs, we should provide a basic infrastructure and incentives to build. Then, not only will the people themselves do the building, but they will also build according to their own requirements. In fact, this is already happening: people are putting up illegal squats, because there are not enough legal housing opportunities. We should harness and support their energy and creativity.

Imagine this: the government provides all the crucial infrastructure for new housing projects, such as water, sanitation, electricity and community services. The rest is up to the family, who starts by building only the core of a house – all the load-bearing walls, but not necessarily all the dividing walls. Maybe doors are not needed for every room; floor finishing such as tiles or wood is not needed at the beginning, but can be added later. This would reduce the initial investment costs and make building affordable to a much wider group of people. As family size or income increase, they can add rooms or more amenities as appropriate for their specific situation and lifestyle. On the other hand, a standard house will never be satisfactory: it will limit possibilities, and be much more expensive at the beginning. When you build a finished house and hand it over, you have to pay for everything at once. By contrast, when you allow people to be involved in the construction, they can lower the costs by contributing material and labour. There is also a real sense of ownership, and people take much better care of the buildings once they are completed.

The target should be to be as self-sufficient as possible in terms of building materials. Using local products lowers prices and makes construction more affordable. Using local techniques provides employment for local craftsmen. It's a win-win situation!

In the eyes of an architect, this may not result in the perfect housing – but it doesn't matter, as long as people are happy. I strongly believe that options such as self-help, self-build and cooperative housing should be tried out. The government should provide the basic infrastructure and an enabling environment, but otherwise not be involved too much. If it continues to invest all available funds in standardised, turnkey condominiums, we will never catch up with the ever-increasing demand for housing.

HBS: Building codes are often very restrictive. In Makoko/ Lagos, an informal code has developed over years that reflects the particular conditions near the lagoon, but that is not in line with the country's official code. How would such codes need to be revised to allow for more flexibility without compromising safety?

Giorghis: The building code was developed to ensure quality and security for high-end forms of construction. However, at the level of simple residential housing, these standards are often excessive and impose unnecessary restrictions. Until recently, the building code did not allow clay houses in Addis. But how many houses in Addis are built with clay? Thousands! Clay is now allowed again, but the banks will not accept clay houses as a collateral because they don't believe they are solid enough. It's a bit ironic.

Of course we need a building code that regulates basic safety and hygiene, and that ensures that houses are not constructed in the middle of a street. But on some questions, regulations should be more flexible – for instance, the choice of materials. Using local materials and techniques would bring a lot of benefits to the country. Did you

know that about 80 percent of the total costs for a typical high-rise in Addis are spent on imported building materials?

What we are doing at EiABC [the Ethiopian Institute for Architecture, Building Construction and City Development] as an educational institution is trying to reintroduce traditional building materials through new technologies. There are parts of the world where you build up to four floors with clay. In Ethiopia, the research on clay was stopped three decades ago, and we only recently started to look into it again. Imagine where we could be today if we had the results of three decades of research!

Of course, there are other materials that deserve research, too. We also need to explore appropriate design options, adapted to the various environments and climates in Ethiopia. We have started doing that, but there is a lot more to be done. The target should be to be as self-sufficient as possible in terms of building materials. Using local products lowers prices and makes construction more affordable. Using local techniques provides employment for local craftsmen. It's a win-win situation!

Unfortunately, people believe traditional materials are old-fashioned and of lower quality. If you restrict traditional materials to low-income housing, people will say, *They are giving these materials to us because we are poor*, and will always aspire to modern materials. We need to work hard

on changing these attitudes. I recommend building a couple of public buildings, like cultural centres – or even better, residences for high-income groups – with traditional materials, so that the public will start to value them again. In the few cases we have done this, I have witnessed the positive impact. I built a school in Mekelle out of local stone and clay instead of hollow blocks and cement. The strongest resistance I faced was from the local administration. They asked, “Why don't we get a modern building?”. But believe it or not, these buildings are more attractive than the ones made from concrete; they are climatically better suited to the place and resist the weather conditions. The only thing the traditional buildings lacked was a proper design for public purposes.

HBS: A very high percentage of households has access to electricity in Addis, but there are frequent power cuts that impede productivity. The same is true for drinking water, sanitation and waste disposal services. What can be done to improve service delivery?

Giorghis: As with housing, we should complement centralised services with decentralised ones, and get people involved in solving their own problems. Waste disposal in Addis is a good example of how this can work. Some years ago, one lady started mobilising homeless youth to collect the garbage as an income-generating exercise – collecting waste at the household level and bringing it to larger

Pedestrians and public transport dominate the streets in a vision of Addis Ababa in the year 2050 © HBS / EiABC



community facilities. Today this system is working all over the city. Sanitation has improved, jobs have been created and the city is cleaner than before. But let's go farther than what we have today. I believe that water supply can be handled like that. I think that education, health, markets can be handled at this level. In that way, we can leapfrog and avoid the mistakes we've seen in the developed world.

Wealthier households are increasingly using solar energy – not just for electricity, but more for warm water – out of necessity, because the grid is not reliable. The lower-income households will follow at a later stage, because at the moment grid electricity is cheaper than that produced by household PV systems. Water is a different story: poor people are not connected to the water network, and have to buy water in containers at a much higher price. The poor therefore pay more for water than the rich! Rainwater harvesting and water recycling by communities can be helpful here, and some projects have already been implemented. In the long run, dependency on the central water

supply system could decrease, and that should be supported.

As the city is expanding, we can experiment with such new ways of service delivery, including energy production. This has not yet been given proper thought. If we take up the idea of relatively self-sufficient urban sub-centres, we could have a pilot project testing out different approaches. We need more research on the decentralised production and distribution of clean energy.

HBS: The waste disposal system developed from a citizen initiative. Does that mean that people are becoming more conscious of environmental problems in general?

Giorghis: Environmental consciousness is not much developed in Ethiopia. One of the main enemies of the environmental protection agenda is that it is perceived to compete with poverty eradication. Policy-makers tend to prioritise projects aimed at short-term poverty eradication rather than investing in long-term environmental projects, which are considered a luxury, for rich countries only. They say, *Questions of environment can wait until after we have fulfilled the economic needs of the people*. But in the long run, a much worse environmental situation will have negative impacts on the economic well-being of the people! We have to overcome the perception that development and environmental protection are in direct competition.

Another problem is that while the pollution is visible in the city, its consequences are often not fully understood. Take smog, for example. We see it and breathe it every day, but most people don't know about all the invisible consequences for our health. We lack proper research on the impacts of air and water pollution. We need to promote public awareness on these issues – only then will policy-makers change their attitude. Things are deteriorating little by little, and thus go by almost unnoticed, but if we don't change soon, how much worse will things be in ten years' time? I am sure research studies looking into these questions would come to frightening conclusions.

Let me give you one example: in the last couple of years, we have seen repeated epidemics of diarrhoea during the rainy season. Why? Because dirt and waste were pushed into the pipes, and the water quality deteriorated tremendously. We need to do research to understand how and where these spillovers occur, and how we can stop them. The younger generation is already much more conscious

A multi-story building being constructed using local materials, Addis Ababa © BLOCK Research Group, ETH Zurich



Addis could be an example of how to design cities, not as mere copies of models elsewhere in the world, but based on the confidence to develop our very own paradigms, grounded in local circumstances.

of environmental problems. I have hope that they will change things for the better.

HBS: As the seat of the African Union, Addis is often called the capital of Africa. Could the city's urban development become an example for the continent?

Giorghis: Addis Ababa is a very hilly city, high up in the mountains. Our solutions cannot be a model for Lagos or Lusaka. There are lessons to be learned from here but each city must find its solutions based on local conditions. As researchers, we are charged with finding the best way to develop the city, while

respecting our culture, heritage and needs, and making use of local materials. Then we need to convince the people and the decision-makers to take action. I am convinced that the changes will come sooner or later, but if we wait too long we will be in a very dire situation. To avoid this, we need visionary leadership, skilled professionals to support the policy-makers and active communities to get involved at grassroots level. I know a neighbourhood association in Addis that started by improving roads and drainage in their district – today they are building a community-run home for the elderly! It doesn't have to be done all at once. Let it start in one part of town, and the rest will follow when people see the success. Just take the garbage collection example.

I wish that Addis could become an inspiring model for the continent and the rest of the world - not necessarily in the results, but in the *process* of urban planning. It could be an example of how to design cities, not as mere copies of models elsewhere in the world, but based on the confidence to develop our very own paradigms, grounded in local circumstances.

Addis Vision 2050

Addis Ababa is one of the fastest-growing cities in the world. In order to meet the demands of a rising population, and in line with Ethiopia's ambition to become a middle-income country by 2020, the city has set upon a path of urban renewal. Organically grown inner-city neighbourhoods with their substandard housing are being levelled to make way for new shopping malls and office high-rises; their inhabitants are being moved to standardised social housing schemes on the city's outskirts. The asphalt road network is constantly being expanded and streets widened to accommodate the ever-increasing number of cars, at the expense of disappearing public and green spaces. Worsening air and water pollution are not sufficiently addressed, and the city continues to suffer from water and electricity shortages and ineffective waste management.

In 2012, the city administration started to revise the master plan for Addis Ababa. To inform this process, and to engage a wider audience in a debate about the city's future, the office of the Heinrich Böll Foundation in Ethiopia commissioned an international team comprising experts from the Ethiopian Institute of Architecture, Building Construction and City Development (EiABC) and the Singapore-based Future Cities Laboratory (FCL) to develop a vision of what Addis Ababa could become if it follows an alternative pathway into the year 2050.

Addis Vision 2050 envisions a multicentric city, with mixed neighbourhoods providing employment and commercial, cultural and administrative services in close proximity to

people's homes. In this master plan, most daily destinations are within walking distance. This, and a highly developed public transport system powered by renewable energies, means less demand for a road network catering to individual motorised traffic. The space thus freed is used for the development of new public and green spaces. Pedestrian zones emerge around existing cultural, academic and historic centers, such as the National Theatre, the Sidist Kilo University campus and the main train station.

An all-embracing educational system and free access to information empower citizens to participate in both in the making and implementation of decisions. Standardised public housing schemes are replaced by an incremental city, with the state providing only basic infrastructure and support for citizens to build their own homes. This approach acknowledges people's varying needs and financial means, and provides flexibility for changes over time. Household electricity is mainly provided by a network of interconnected solar home systems, with the remainder coming from renewable energy farmers in rural areas. Municipal services such as water, sanitation, waste management and recycling are largely decentralised at the neighbourhood level.

This vision was enthusiastically received by academics, civil society representatives and government officials when first presented in October 2012. Discussions continue with the city of Addis Ababa on the inclusion of some of its elements into the new master plan.

Floating City Solutions for Africa's Vulnerable Coastal Communities:

The Case of Makoko

The global turn of events has left informal settlements in heavily urbanised African coastal cities exposed to environmental risks, exacerbating existing conditions of poverty and decline. Despite its clear challenges, Makoko in Lagos could serve as an innovative and contemporary model for coastal cities on the continent. Further to NLÉ's research and the Makoko Floating School Report (April 2012)¹, we interrogate issues of integrating physical, social, economic and environmental agendas in the context of informality and Lagos's pervasive socio-economic divide. Using Makoko as a case in point, our research also questions and qualifies the definition of sustainability for Africa's most vulnerable urban communities.



Kunlé Adeyemi

Kunlé is an architect, urbanist and creative researcher. He is the founder of NLÉ, an architecture and urbanism practice established in The Netherlands with a focus on the business and intelligence of developing cities. Adeyemi studied architecture at the University of Lagos and later obtained a post-professional degree at Princeton University, based on his research on rapid urbanisation. Before starting NLÉ, he led several projects in Europe, Asia, Africa and the Middle East for OMA, a leading international partnership practicing architecture, urbanism, and cultural analysis. He frequently lectures in India, Switzerland and The Netherlands.

Urbanisation Trends on the African Continent

A double-edged sword of rapid urbanisation and climate change is increasingly transforming life in African cities, in complex and at times adverse ways. It is well known that cities have become the primary form of human settlements, but few are aware that the overwhelming preponderance of urban expansion will continue to be in "developing" regions along or near coasts.² Cities of the global South now accommodate over twice as many people than do their Northern counterparts, with Asia and Africa alone collectively accounting for over 80 percent of growth. In effect, by 2030 seven out of every ten urban residents in the world will live on one of the two continents.³ Africa's urbanisation trends are distinguished by the unprecedented, unregulated and largely unplanned nature of expansion, which presents particular challenges and at the same time, opportunities. One consequence is a direct correlation between urban growth and the deepening and concentration of poverty. For large sections of the population in these cities, housing and living conditions are in a dire state. As public housing is scarce, the only way for

Given limited public investment capacities and the unyielding pace of growth, the ingenuity of poorer individuals and communities to attend to their own basic urban needs is worth noting.

non-landowners to secure a home in the inner city is usually to rent privately or to squat on vacant sites. As a result, in major African cities between 30 and 60 percent of people live in informal settlements, often with high levels of overcrowding and little or no provision for water, sanitation, drainage and garbage collection.⁴ Much of the local population and policy environment remain uninformed and thus ill prepared to deal with the complex issues already facing their cities. Under-funded municipal governments are typically trapped in a continual game of catch-up, their efforts to address infrastructural deficits and deliver urban services consistently overwhelmed by teeming populations. Given limited public investment capacities and the unyielding pace of growth, the ingenuity of poorer individuals and communities to attend to their own basic urban needs is worth noting. While the impact of rapid urbanisation and economic growth of cities in Africa is now common knowledge, the impact of climate change is often neglected in urban analysis and planning. As the irony of misfortune goes, "[a] though Africa is the continent least responsible for climate change, it is particularly vulnerable to the effects, including reduced agricultural production, worsening food security, [and] the increased incidence of flooding and drought".⁵ The research indicates that low-lying coastal cities will be hit hardest by the diverse and reinforcing effects of



global warming. Yet besides Antarctica, Africa is the only continent with a greater proportion of people living near or along the coastline than further inland.⁶ Many in these regions are already experiencing rising sea levels, ocean surges and frequent flooding. Living on the edge in makeshift homes that have evaded formal planning, the growing number of informal settlements is highly exposed, making these some of the most vulnerable communities globally.

Communities on the Climate-Challenged Coast: The Case of Makoko

As it happens, sub-Saharan Africa's largest city – Lagos, with an estimated population of fifteen million – is a high-risk zone for climate change. Almost 30 percent of Lagos – the smallest yet most populated state of Nigeria – is covered by water and wetlands, and with the increase in flooding,

this area is likely to expand. Lagos is said to be the second fastest-growing city in Africa and the seventh fastest-growing megacity in the world. In the face of these projections, Lagos currently faces a shortage of over 5 million housing units. The exorbitant costs of building and the legal acquisition of land are far beyond the means of most people in meeting their basic physical and social need: a home. For many who migrate into Lagos in search of a better life, the historic waterborne community of Makoko provides just that. Sitting on the edge of the Lagos Lagoon, Makoko is one of about nine informal “slum” communities located within a coastal wetland, where the waterlogged terrain forces the construction of shacks on stilts and reclaimed land. Though far from an urban anomaly, Makoko is distinct from other parts of Lagos. As one observer noted, here the sound of an automobile is a strange phenomenon, and children seem able to

*A boy jumps into the lagoon in Makoko, Lagos
© Emmanuel Quaye / Africa Media Online*

swim before they can walk. Since the community is largely built on water, residents and visitors alike chiefly get around by canoe, while minimal land and footbridges allow some access on foot. The community owes its considerable dynamism to its historical association as a fishing village, its strategic location, and its magnetic appeal to migrants, all of which have triggered growing global interest in the “floating slum” motif. For nearly a hundred years, Makoko has thrived on the nearby fishing and sawmill industries, which provide over a third of Lagos’s fish supply and most of its timber. With little government support, its residents have gradually and informally integrated a range of facilities to service this highly dense and urbanised area. Although overall living conditions are very poor and modern infrastructure is not available, the people of Makoko’s adaptation to their environment offers valuable insights for addressing the imminent challenges of rapid urbanisation and climate change in coastal cities. Makoko is also better prepared to manage the rising sea level with its current building quality and stilt construction; however, the community does intermittently face problems of uneven settlement and recurrent flooding. As the population grows, solid waste is increasingly used as landfill to secure construction in the swamped areas. Although Makoko is an informal settlement, it is believed that about a hundred thousand people now reside here. A recent sample survey suggests that only 7 percent have legal title of ownership. The vast majority have found the process of obtaining legal titles tedious, expensive and affording few benefits in terms of improved living conditions. Despite the common local perception of the unimportance of titles, tenure insecurity is a major issue, as it dissuades further private investment, limits public intervention and creates tensions in the community’s ongoing engagement with the city’s planning authorities.

Under the auspices of informal urbanisation, the shallow waters of Lagos Lagoon have become the new urban terrain, developing its own rules, identities and ingenuities.

coastal African cities: Accra, Cotonou, Luanda and Dakar, to name a few. Such solutions are particularly relevant within informal communities straddling conditions of permanence and transition. With its pilot project – Makoko Floating School – NLÉ, working closely with the community, proposes a building solution that is indigenous, scaleable, adaptable and mobile to collectively address issues of urban development, housing shortage and infrastructure needs in view of the changing climate and increasing flooding. To the undiscerning eye, Makoko constitutes little more than an over-populated slum. In contrast to such perceptions, the community is served by several social amenities, including schools, churches, fish smokeries, boat builders’ workshops, barber shops, bars, a record store and even a photographer’s studio. Here water is infrastructure, and a canoe is a primary asset for mobility, commerce and industry. Under the auspices of informal urbanisation, the shallow waters of Lagos Lagoon have become the new urban terrain, developing its own rules, identities and ingenuities. The local building typology and construction system are key features of this distinct architecture and urbanism. The typical building in Makoko consists of lightweight timber structures, enclosed by ventilated bamboo walls and thatch or corrugated metal roofing – all supported on stilts to prevent flooding during tidal surges. With almost no use of cement blocks and glass, these alternative methods of achieving shelter, visibility and ventilation in a densely populated, water-borne community create a unique urban environment. Predominantly, buildings are orientated east-west, reducing solar heat gain, harnessing prevalent winds and facilitating waterways. The wood, bamboo and fabrics used in building are entirely locally sourced or recycled. Though lacking adherence to formal building regulations and standards, the near-perfection of Makoko’s



Ore Disu

Ore is an urban policy analyst and researcher primarily concerned with uncovering how Africa sees itself in light of present urban dynamics and how, in turn, its cities are viewed within the wider framework of global politics and development. She has a BA in Architecture from the University of Cambridge (2009) and an MSc in Urban Development Planning from the University College of London (2010), as well as a certification from King’s College London (2011) in energy and international relations. Disu has contributed to the efforts of organisations such as WaterAid UK, the Overseas Development Institute in London, and the African Centre for Cities at the University of Cape Town.

Learning from Makoko: NLÉ’s African Water Cities Project

The African Water Cities Project offers a vision to develop sustainable contemporary communities on water through a responsible movement of urbanism. The initiative emerges from the need to forge an array of creative, cohesive and contextually relevant solutions to deal with the challenges and opportunities – learning from Makoko. By extension, these solutions can be adapted to other low-lying

building typology is a result of generations of trial and error and the subsistence cultivation of the built environment. In certain ways, Makoko and other water communities embody a unique synthesis of socio-political relations, economic networks, architecture and spatial presence that collectively push at the frontiers of urbanism. NLE's proposal is derived from studying these conditions and contributions, uncovering their logic, and developing them into a building typology that integrates local know-how and modern technology in response to old and emerging challenges of urbanisation. Potential upgrading initiatives broaden the scope for effecting development and poverty reduction in a challenging ecological and policy environment. However, given the insecurity facing the community, legitimacy or tenure is regarded as the single most important contribution to the accommodation of interventions in this space. Currently, Makoko balances precariously on the fault-line of overlapping jurisdictions, highly exposed to battles over contested boundaries and divergent vested interests. As such, its status of legal rights of occupancy remains questionable at the federal, state and municipal levels. Furthermore, the people of Makoko also face safety risks due to the community's proximity to high-tension power lines. The initial objective of NLE's project was to upgrade an existing school with problems of sinking foundations, recurrent flooding and small, cramped spaces. The Makoko Floating School proposal now

ambitiously assumes a comprehensive stance, adopting off-grid solar energy generation, rainwater harvesting for domestic use, and provisions to support simple technologies such as organic waste composting and aquaculture. By advocating for a floating watercraft as opposed to a building on reclaimed land or stilts, it also endeavours to address various issues regarding flooding, poor building quality and land titles. Regarding the school itself, the design project features a flexible multi-use space that can be used outside of school hours by the entire community for various purposes. The Makoko Floating School is a new building prototype adaptable for other uses: homes, community facilities and public buildings. As a reusable modular building prototype, the "building or watercraft" may have the potential to increase the housing stock of rapidly developing coastal cities. At the core of the design process is a drive to deliver affordable, good quality and flexible housing *at scale*. Careful consideration is required of the policy and legislative framework governing this new building and spatial planning typology, in order to legitimise and secure its beneficial contributions. At the moment, building is perceived as a land-based activity and existing systems do not accommodate extensive construction on the water for residential purposes. In essence, the details of regulations must be negotiated relative to existing planning laws and building regulations. These should in turn be supported by specific policies and planning

Makoko, Lagos © Yann
Arthus-Bertrand / Altitude



programs to coordinate building development and integration within formal, city-wide interventions affecting transport, energy, sanitation and water.

Concluding Remarks: Pursuing Sustainability

On July 12, 2012 the community of Makoko was served a seventy-two-hour eviction notice by Lagos state authorities, and the demolition of the community began. The notice said that the residents “have continued to occupy and develop shanties and unwholesome structures on the waterfront without authority thereby constituting environmental nuisance, security risks, impediments to economic and gainful utilization of the waterfront such as navigation, entertainment, recreation among others”. Thousands were displaced and made homeless in the operation, which was suspended only when a community leader was shot dead by the police. Lagos’s large coastal areas and water bodies are largely poorly planned and under-utilised. Makoko sits in the heart of Lagos. Its location is ideal, central and therefore a valuable target for the typical up-market real estate and land reclamation developments in Lagos. Makoko epitomises imminent problems of urbanisation and climate change. At the same time, it inspires possible solutions and alternatives to the invasive culture of land reclamation, which tends to have severe and permanent impacts on the local environmental and economic ecologies. By endorsing integrated social development and gainful employment of local skills and technologies, the NLÉ proposal also points to opportunities for

Makoko epitomises imminent problems of urbanisation and climate change. At the same time, it inspires possible solutions and alternatives to the invasive culture of land reclamation.

knowledge exchange and professional practice. Sustainability remains the critical issue to address here – whether in relation to tenure insecurity, providing affordable housing options for expanding cities, or equipping vulnerable communities with strategies for climate change adaptation and economic development. According to the UN definition, sustainability implies responsibility for the social, environmental and economic needs of the present without compromising opportunities for future generations. The Makoko Floating School building prototype (NLÉ craft) adheres to ideal standards of sustainable development with its inclusive technologies: renewable energy, waste reduction, low-carbon transport, eco-friendly building materials, water and sewage treatment, and community participation. At the same time, the vision of floating communities challenges the conventional understanding and definition of sustainability. How do we measure the sustainability of mobile, floating settlements comprising non-permanent, lightweight buildings in a volatile political and climatic environment? Ironically, both the strength and vulnerability of the NLÉ floating community vision derive from these conditions – mobility, self-sufficiency and non-permanence. The recent forced eviction of Makoko and the ongoing legal and human rights battles represent a more immediate and practical basis for deliberation of the merits and drawbacks of NLÉ’s floating communities proposal as a sustainable solution.

By negotiating the quality and terms of mobility, NLÉ attempts to confront gaps in policy that create poverty traps, affording opportunities to legitimise and thus formally invest in informal communities with fewer risks. A critical element of sustaining an enabling investment and policy environment is the incorporation of regular, open dialogue with public administrators at the state and communal levels

NLÉ’s vision to pioneer sustainable development of coastal African cities
© NLÉ





over project deliverables in tandem with broader planning priorities and developmental concerns. Here, active community involvement is most needed to ensure that decision-making processes and design interventions are truly community-driven, and not autonomous interventions. From the townships of Durban to the inner-city slums of Dharavi, community federations and their partnerships with governments are already changing the profiles of city planning, management and expansion. Despite its challenges, Makoko could serve as an innovative and contemporary

model for coastal African cities. Its inhabitants are already dealing with the problems of overpriced land, housing shortage and frequent flooding, while simultaneously expanding opportunities for agriculture, industry and trade. Makoko is maximum urbanisation with minimum means. Like megacities in the developing world, Makoko in Lagos is at the forefront of this evolving trend of urbanism, and therefore at the forefront of inspiring solutions. The solutions uncovered here could play a critical role in shaping the future of Africa's coastal water cities.



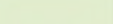


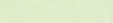
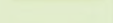


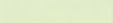

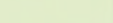

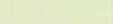
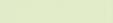
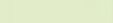
Makoko houses on stilts, Lagos © Yann Arthus-Bertrand / Altitude

Endnotes

- 1 The report is available at: http://www.ng.boell.org/downloads/120420_Makoko_Research_Document_NLE.pdf.
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In Lagos, a BRT System Struggles to Make an Impact

Legend

-  BRT Route
-  BRT Route
-  BRT Route
-  BRT Route
-  BRT Lite Route
-  BRT Route
-  BRT Route
-  Lagbus Priority Scheme Route
-  Bus Corridor
-  Pilot Bus Route
-  Lagos -
-  Lagos -
-  Lagos -
-  Lagos -
-  Mangrove
-  Heavy Forest

Faced with a crippling traffic situation, Lagos launched a Bus Rapid Transport (BRT) system in May 2008. Despite the fact that this came more than thirty years after a BRT was first deployed (in Curitiba, Brazil), the Lagos rollout still managed to achieve the distinction of being the first of its kind in sub-Saharan Africa.

Today, more than two hundred BRT buses criss-cross Lagos, carrying two hundred thousand persons daily. The buses offer the advantage of having dedicated lanes, thus reducing journey times in a city famous for its traffic jams. “The BRT and light rail systems, although newly introduced to Lagos, are crucial infrastructure for improving mobility in developing cities”, says architect Kunlé Adeyemi, who’s worked on the plan for a new bridge to link the Lagos mainland (home to 70 percent of Lagos’s population) and the city’s business districts on the island(s). “Cities like Mumbai, Jakarta and Lagos require a multi-modal transportation system to keep up with the growing populations. The BRT and light rails are welcome additions to existing mini buses and other public transport systems.”

Before the introduction of BRT in Lagos, public transportation was restricted to taxis (i.e. mainly cars and motorcycles) and rickety buses of varying sizes, ranging from the fourteen-eighteen seat minibuses (“danfo”) to the larger “molues” (crude assemblages resembling American-style school buses). Collectively, the World Bank estimates that there are as many as seventy-five thousand of these buses in Lagos, making sixteen million trips daily.¹

To forestall resistance from the drivers of the danfos and molues, who were fearful that the BRT would spell doom for their work, the government brought on board the powerful National Union of Road Transport Workers (NURTW), which controls Lagos’s motor parks and its danfos and molues. One of the BRT lines (the “Blue Line”) was concessioned to the NURTW to run, and a number of molue drivers were recruited as drivers.

In a similar situation in Durban, South Africa in the run-up to the 2010 World Cup, the city sponsored thirty of the “toughest and roughest” – in the words of a city official – taxi drivers to travel to Colombia to see an existing BRT system, in a bid to convince them that their livelihoods would not be affected by the buses. The World Bank estimates that the BRT has created thousands of jobs for bus drivers, inspectors, supervisors, mechanics and a network of ticket sellers.²

Like a good number of emerging public infrastructure projects in Lagos, the BRT is being implemented as a Public-Private Partnership (PPP) scheme. The government provides road infrastructure, traffic management, and overall regulation, while the private sector finances the purchase of the buses and operates and maintains them in partnership with the transport unions.

The BRT was designed to target not only Lagosians without cars, but also car owners seeking a means of transport that offers a higher quality of service (cleaner seats, greater comfort, bus queues) than the danfos and molues.

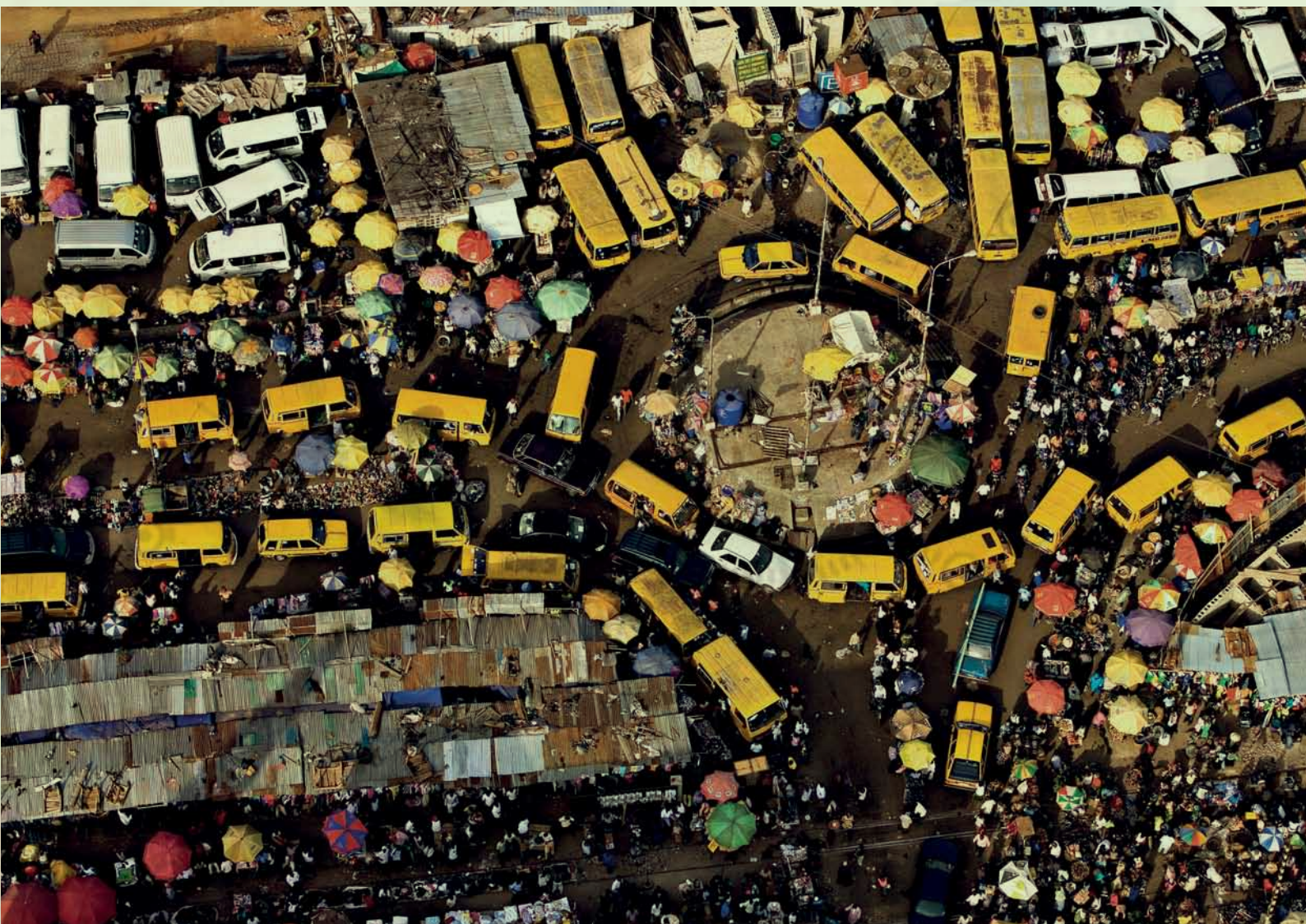
A survey found that 85 percent of the BRT’s passengers were converts from the danfos.³ The BRT has however been less successful with molue users (only 8 percent of BRT passengers were found to be molue converts) and owners of personal cars (comprising only 4 percent of BRT converts). What this means is that the city’s poorest – who patronise the molues – and the car-owning middle classes have yet to find significant value in the BRT. For Lagos’s poor (according to the United Nations, as many as two-thirds of Lagos residents live below the poverty line)⁴, ticket prices, ranging from seventy cents to one dollar for a one-way trip, can be daunting. Nonetheless, the BRT’s viability is not in doubt – the large population of Lagos guarantees that there will always be enough passengers to fill it to capacity.

Apart from pricing, the BRT scheme faces



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other challenges, ranging from drivers overloading the buses, to a poor maintenance culture, to the fact that the buses, being diesel-powered, are not environmentally friendly.

Then there's the frustration of other road users. As recently as August 2012, journalist Ijeoma Nwogwugu wrote a column protesting the government's decision "to carve out, using dangerous concrete barriers, a section of the main lanes for its BRT buses, [barring] motorists from using the so-called exclusive lanes". She added: "These silly lanes exclusively meant for the smattering of BRT buses that ply Lagos roads are always left empty while commuters are confined to two lanes when gridlocks occur".

This observation points to one key factor: there are too few BRT buses available to take advantage of the infrastructure set up for the service. Realising the inadequacy of the BRT services, the government

is keen to extend it, partnering with banks to finance the acquisition of new buses, as well as seeking funding for the construction of new bus lanes. According to the Lagos Metropolitan Area Transport Authority (LAMATA), the Mile 12 Ikorodu corridor will be one of the early beneficiaries of the expansion plans. Over the next two years, dedicated BRT lanes and fifteen bus stations will be added to the highway. When completed that service is expected to carry one hundred and sixty thousand passengers daily.⁵

In spite of all these efforts, however, it is now clear, four years on, that the BRT alone cannot solve Lagos's grim traffic challenges. The lesson from cities like London and New York is that in a Lagos of fifteen million people, a rail system is indispensable. According to the Lagos State Traffic Management Authority (LASTMA), Lagos has almost ten times as many cars per square kilometre as does New York.

A market near Surulere in Lagos © Yann Arthus-Bertrand / Altitude



The BRT stop at Tafawa Balewa Square, with molues visible in the background © Oluwaseyi Akerele

Yet the only functioning rail service that currently exists in Lagos is a vestige of the colonial rail system – rundown, outdated and lacking any significant capacity.

To make a dent in the gridlock, the city government would have to combine active discouragement of the use of cars (as London did in 2003 with the introduction of a congestion zone charge)⁶ with the rapid development of non-vehicular transport systems.

Commendably, the state government is implementing a multi-billion-dollar light rail system, to be known as Eko Rail, connecting the city's mainland suburbs to Lagos Island, the heart of the

city's business district. When completed, it will have seven lines and will carry about seven times as many passengers per day as the BRT currently does.

And then there are the waterways, which Lagos has in abundance (about a fifth of the city consists of water): lagoons, creeks and the Atlantic Ocean. "At the urban scale, Lagos lagoon and waterways are underutilized assets for quick transportation across the city," Adeyemi says.

The light rail system will relieve Lagos's congested roads of a great deal of pressure, and combined with extensive and efficient bus and boat/ferry networks, help ensure that the city sheds its reputation as a poster child for nightmarish traffic jams.

Endnotes

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Interview

African Cities and Youth:

A Perspective from Cape Town

By 2030, it is estimated that people under the age of twenty-five will constitute two-thirds of Africa's total population. The majority of them will reside in cities. Since frequent so-called "service delivery protests" involve youth to a large extent, leading academics, urban development practitioners, political decision makers and community members in South Africa and elsewhere are beginning to realise that youth should not be passive bystanders in processes of governance affecting their future and (urban) environment. Engaging them as agents of social change on issues of development and environment is of key importance in creating sustainable communities and deepening democracy. While debate shifts from the question of whether youth should be engaged at all to that of how best to engage them, genuine youth engagement is still the exception, rather than the rule.

The Social Justice Coalition (SJC), a grassroots activist movement operating in the slums of Cape Town, works toward improving living conditions through community participation and promoting knowledge around issues vital to communities. One of its campaigns, for example, advocates for changes in government policy and implementation regarding the provision of sanitation.

Gavin Silber, coordinator of the SJC, shares his views on how youth can be constructively engaged to promote development goals for themselves and their communities.

HBS: What is the importance of young people in the social sustainability of African cities?

Silber: The Arab Spring illustrated the instrumental role that youth can play in prompting change. This has long been true, but new technology – utilised most intensively by the youth – has further enabled those who are unsatisfied with the status quo to connect and organise at an unprecedented level. There is far greater potential to create awareness around injustice today than

existed ten or even five years ago. As smart phones become cheaper, and "dumb" phones more capable of accessing social networking platforms, millions across the developing world will be able to access information and connect with each other. So we can now unite across vast regions or continents.

Yet online activism must go hand in glove with physical connectivity and action. From the Arab Spring to the Chilean student protests to the Occupy movement, it is apparent that the city remains the most conducive area in which to motivate and organise for change.

More people than ever before are migrating to African cities. But governments are often still very constrained when it comes to resources and expertise, creating significant challenges in ensuring that all residents enjoy a decent quality of life. Despite high economic growth rates in many African countries (often due to increased investment from China and other emerging powers), income inequality is increasing in many cities. More and more, we see economic growth benefiting city centres and surrounding suburbs, while poorer communities on the periphery continue to live in squalor. Across the continent, slums – or "informal settlements" as they are known in South Africa – continue to be neglected. In many cases they are summarily and illegally demolished by the state in the interests of gentrification, leaving many destitute.

As a result of daily violations of rights – often at the hands of government – the poor increasingly feel that they do not have a voice, at times turning to violent protest in order to vent their frustration. The youth are often involved in these protests, as they see few alternatives for addressing the dire conditions in their communities. Many states respond to this action very aggressively, prompting a cycle of violence and tension between income groups. This is an unsustainable situation, which will eventually lead to political and economic instability.



Gavin Silber

Gavin has served as the director/coordinator of the Social Justice Coalition since December 2009. He has previously worked as a researcher at the Parliament of the United Kingdom and the Treatment Action Campaign – an organisation that successfully campaigned for improved access to lifesaving medication for millions of people living with HIV in South Africa. He is a co-founder of Ndifuna Ukwazi (Dare to Know) a recently established not-for-profit trust that provides strategic, research, leadership and legal support to community organisations operating across South Africa.



The Social Justice Coalition protests against government's failure to provide basic services and proper sanitation to many communities, Cape Town © David Harrison

HBS: How important are the youth in your work on urban challenges, and in developing urban development agendas?

Silber: While our member base is spread across age groups, most of our active members are under the age of thirty. Many of the older generation, who lived through apartheid, see little change in responses from government in the two decades since it ended. These older people are more sceptical that change is possible.

Take Cape Town, for example. The city is often portrayed as a world-class tourism destination characterised by unique natural beauty. We hear less often that almost a third of its population lives in inadequate or informal housing. Apartheid has left the city deeply divided, with an affluent central business district and surrounding suburbs, and poorer slums on the outskirts. The inner city has some of the best schools, hospitals and leisure amenities in the world. Meanwhile, homes in many informal settlements are made from wood and scrap metal, and lack basic access to water and sanitation. These areas suffer from some of the

world's highest crime rates.

The youth are actively angry about their surroundings, and want an avenue through which to channel this frustration. We start by getting these young people involved in our campaigns. As their efforts begin yielding incremental improvements, older relatives and friends start engaging as well.

HBS: What current societal changes are impacting on the youth, and what key aspects of youth development are institutions struggling to deal with?

Silber: The youth in South Africa increasingly feel disillusioned with government, politicians and political parties. Many turn to less orthodox political organisations, like social movements, for political representation.

In poor and working class communities across South Africa, the state is failing to provide a comprehensive basket of services to ensure that children and teenagers grow up in a safe and stimulating environment.

The public education system has very high dropout rate, and many of those who do finish struggle to find jobs. The state of school

infrastructure is very poor. Almost a thousand schools in South Africa have no toilets; 90 percent of them have no computer centres; 93 percent lack libraries; and 95 percent have no science laboratories. Many school-going children and youth are not offered extracurricular activities – they have very little to do in the afternoons while their guardians are at work, apart from wander the streets. Urban governments need to develop more pragmatic and comprehensive plans, involving all the various departments responsible for building and maintaining communities and providing services focussed on youth development. Departments of education, health, safety and human settlements often operate in isolation, although their responsibilities are closely linked and frequently overlap. There is little planning to ensure that children grow up in a safe, healthy and dignified environment.

HBS: What mechanisms exist for communities and the youth to engage directly in development planning in Cape Town?

Silber: South Africa has been rated by the International Budget Partnership as having the world's most transparent government budgets – but for that transparency to be meaningful, we have to deal with complexity. The budget itself comprises thousands of pages and scores of documents. It is often difficult for citizens to find information relevant to them, particularly if they lack tertiary education or are not native English speakers.

The same is true for urban planning. The vision for transformation is spread over several documents at various levels of government. These tend to include technical plans, but little on how communities or young people can be included in the development process. Without this essential component, urban policies often fail to win community buy-in, and ultimately fail.

The SJC is in the process of launching a new project known as *Imali Yethu* – “Our Money” in the local Xhosa language. This project encourages community engagement with the budget process, to ensure that resource allocation is prioritised to support those most in need – particularly in informal settlements. In addition to ensuring appropriate

The youth are actively angry about their surroundings, and want an avenue through which to channel this frustration.

budget allocations, we are working to ensure that citizens monitor how budgets are spent. Many essential services in informal settlements - such as waste management, area cleaning and toilet maintenance - are outsourced to private contractors, with little to no monitoring from the state. As a result, services are often well below standard, despite costing hundreds of millions of Rands to Cape Town's tax base, alone. If this is to change, residents of these communities must be empowered to assist the state in monitoring delivery.

HBS: What advantages can a techno-savvy youth bring to these kinds of programmes and projects?

Silber: *Imali Yethu* seeks to combine the SJC's grassroots organising with the power of mobile technology, enabling residents to access information related to these services and eventually, also to report faults. To do this, we have partnered with Mxit, the largest phone based social network in South Africa. It has more than ten million users, most of whom are under the age of twenty-five.

Networks such as Mxit are very cheap to access – a message costs around one cent, and is free altogether on certain mobile networks. It can be accessed from dumb phones costing no more than USD 40. However, the technology is only a fraction of the project; the more difficult aspect is getting people to use it. Ideally, therefore, the technology needs to be built around an existing grassroots effort, not the other way around.

Another challenge is that government is hesitant to accept that community members can be allies in ensuring that a service is properly delivered. Through our projects, we are trying to show that communities can actually make the work of government a lot easier, and so improve their own quality of life.

Building Climate Resilience in Poor African Households

Introduction

Climate change impacts at global, regional and local scales on urban and rural areas; water and energy access; and agriculture and health sectors. The Intergovernmental Panel on Climate Change's conservative estimates for Africa include exposure to increased water stress, with direct impacts on productivity of rain-fed agriculture; sea-level rise affecting low-lying coastal areas, many of which are the locations of large and growing cities; and an increase in the amount of arid and semi-arid land on the continent.

The future impact of regional climate change is compounded by uncertainties in the global economy. For instance, an approximate 60 percent increase in food prices in the first half of 2008 created an additional 155 million global poor. In 2012, drought in the US Midwest ruined the largest corn crop in the world, half of which was intended for biofuels production. As a result, food prices are set to increase due to greater demand for corn from both the food and energy sectors. Economic and climate change stressors introduce uncertainties into production and distribution networks, and impact upon the demand of basic resources. This results in double- and triple-squeeze effects on poor households, which are unable to cope and fall into further poverty. According to the 2011 World Disasters Report, new regulations must curb the ability of speculators to exert excessive market power over food.

Urban African households, especially those in informal settlements, face additional stresses stemming from the dual trends of climate change and increasing urbanisation. In poorly serviced informal settlements of many African cities, heavy rainfall leads to contamination of water sources and an increase in water-borne diseases. Long dry spells lead to water and power shortages for countries that depend on hydropower, such as Kenya, Zambia and Mozambique, and the cities within them. In addition, poor urban dwellers often lose productivity and

Urban African households, especially those in informal settlements, face additional stresses stemming from the dual trends of climate change and increasing urbanisation.

income from disruptions to electricity and transport networks linked to extreme weather events, driving them into deeper poverty.

Drought is closely linked to food insecurity and increases in food prices. The humanitarian crisis in the Horn of Africa is a case in point: drought has affected over thirteen million people, according to a 2011 report by the International Federation of Red Cross and Red Crescent Societies (IFRC). The IFRC report states that this region of Africa has suffered from an unrelenting pattern of repetitive droughts in the last two decades, and maintains that the long-term solution for millions suffering in Somalia, Kenya, Ethiopia and Djibouti is to build resilient and self-sustaining communities. Humanitarian relief in the form of food aid exacerbates current dependencies on expensive and unsustainable emergency responses. It can also lead to increased urban pressure as failed pastoralists migrate, sometimes across borders, often to the closest city.

Adding further complexity to the physical and economic facets of global change are new configurations of the internal structures of households due to changing social aspirations, as well as diseases such as HIV/Aids. Poor African households are often female-headed, single-parent, grandparent-led or child-headed. Not only does this have policy and planning implications, but it directly affects the ability of urban households to respond or adapt to the increasing pressures of difficult living conditions. These conditions include poor access to water,



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sanitation and waste management networks; distance from functional health care centres with adequate water and energy provision to dispense health services; and poorly designed homes that lack both thermal comfort and sufficient ventilation, leading to much reduced air quality and eventually, acute respiratory problems, especially among children.

Building Climate Resilience

This article considers two approaches to building climate resilience in African households, and reflects upon the potentialities of each. The first approach entails macro responses enacted at national level, in the form of climate change legislation. The second examines micro responses addressing the problem of energy access by means of decentralised technical solutions, implemented through diverse institutional mechanisms at neighbourhood and household levels. The spaces where the two responses intersect generate the most interesting insights.

The Global Legislators' Organisation (GLOBE)¹ produced a review of existing climate change legislation in seventeen major economies in 2011. The aim was twofold: to support legislators in

advancing climate-related legislation in their own countries through peer-to-peer learning, and to highlight progress made in climate change legislation at national levels in both industrialised and developing countries. The GLOBE Legislation Studies 1 and 2² reveal great progress in the passing of laws focused on mitigation, among both developing and developed countries. While low-carbon solutions for energy, transport and construction sectors are high on the agenda of most industrialised nations, developing countries such as Indonesia and Brazil have also targeted reforestation and sustainable land management through climate change policies.

South Africa, which lacks a comprehensive climate change law, was the only African economy covered by the GLOBE studies. In recognition of this gap, a review of climate change legislation in leading African countries was commissioned by AWEPA (the Association of European Parliamentarians for Africa) and undertaken by the author on behalf of the Sustainability Institute in 2012.

The African review revealed that in fast-growing African economies, a very different picture emerges as governments try to respond to developmental and

A woman stands outside her home, which has been refurbished for energy efficiency © Kuyasa CDM / Harry Boden

environmental challenges simultaneously. The climate change policy landscape in Africa is intrinsically tied to existing environmental laws and policies that address high levels of poverty, water deficiency and energy security.

Kenya and Ethiopia: Leaders in Climate Legislation?

The tight linkages between growing industrialisation, ecosystem vulnerability, increasing urbanisation and household vulnerability are exemplified in the case of Kenya. High population growth and urbanisation have led to encroachment on forests and savannah for agricultural and pastoral farming, wood fuel and timber for construction. The resulting land-use change is the main contributor to carbon emissions in Kenya, and also renders natural and managed (agricultural) ecosystems unable to recover from extreme weather events such as droughts. Further economic expansion correlates strongly with increased energy production and consumption, increased carbon emissions, increased reliance on rain-dependent hydropower, further deforestation and worsening drought. Unless Kenya designs comprehensive climate change legislation to make current energy systems more sustainable, and at the same time addresses the environmental impacts of land-use change, the current developmental trajectory will lead to increased food and energy prices for the urban poor.

Ethiopia, another rapidly growing African country, is committed to charting a sustainable development path through a Climate-Resilient Green Economy (CRGE). The CRGE strategy acknowledges high levels of poverty in the country, with seven million people facing food insecurity; currently high levels of reliance on rain-fed agriculture; and vulnerability to droughts and flooding in a context of future climate change uncertainty. The CRGE is based upon four pillars, with direct positive feedbacks for regional food, water and energy security, as well as reduced carbon emissions: improved crop and livestock production practices; protection and re-establishment of forests for their economic and ecosystem services; expansion of electric power generation from renewable sources for domestic and regional markets; and energy-efficient technologies in transport, buildings and industry.

Kenya and Ethiopia are leading the African race on climate change legislation, ahead of economic giants (and emitters) such as South Africa. Political champions of climate change laws in both countries believe that exposure to disasters linked to climate

Compact city development carries the potential for reducing energy and water footprints for entire urban populations, while also reducing transport costs for everyone.

change have helped push the agenda. In contrast to the typical top-down approach characteristic of the drafting of legislation, Kenya's process involved over two hundred civil society groups. Furthermore, the latest draft went through public hearings where community members could share their experiences, concerns and proposals. Kenya and Ethiopia hope to benefit from international funding for approved Clean Development Mechanism (CDM) projects, as Egypt has done since 2005. Such funding is expected to increase impetus in the implementation of large-scale renewable energy projects, clean technologies and ecosystem conservation, reducing these economies' reliance on global oil production and agricultural networks.

Green projects should ensure that poorly managed natural resources – which drive up the prices of basic goods such as food, energy and water – are managed sustainably, at least at a regional scale. Of the CRGE initiatives already in implementation, the most powerful is the use of more efficient stoves to reduce the quantity of fuel wood burned for cooking. This development has the potential to reduce forestry-related emissions and increase energy access for poor households in Ethiopia. Well designed climate change legislation and nationally driven green projects can further buffer poor African households against global economic shocks.

Enforcement of low-carbon building standards, efficient public transport networks, green spaces and climate-resilient infrastructure are best implemented at city scale by local authorities. Compact city development carries the potential for reducing energy and water footprints for entire urban populations, while also reducing transport costs for everyone.

Examples of government-led and community-driven energy access projects in South African cities demonstrate the potential of these to build resilience in poor households in current policy and built environment constraints.

Green Solutions in South Africa

According to the Sustainability Analysis of Human Settlements in South Africa (SAHSSA) conducted by the Council for Scientific and Industrial Research (CSIR) in 2001, households spend an average of 59 percent of annual expenditure on food, housing, income tax and transport. However, the poorest households spend almost 75 percent of their total annual disposable income on food and energy, which includes transport. The high cost of transport in South African cities is often linked to extreme urban sprawl, a result of socially and physically segregated, low-density city spaces designed by the apartheid government. These are difficult to transform, even through the best-meaning housing policies and development programs.

In the absence of comprehensive climate change legislation, South African cities showcase notably successful projects that have brought about efficient and safe use of energy in informal settlements. Diverse responses for addressing energy poverty include the application of a range of energy efficiency and renewable energy solutions. For example, pioneering householders in Witsand Eco-Village, near Cape Town, have adopted several demand-side energy management protocols, including better solar orientation and insulation of walls and roofs; and water efficiency and renewable energy interventions (a combination of small wind turbines and solar water heating). The Kuyasa pilot project,³ Africa's first registered CDM project, has benefitted twenty-three hundred informal households in Cape Town through the installation of solar water heaters (SWH), insulated ceilings and efficient lighting. The provision of SWHs to low-income urban households is now being rolled out at a massive scale in the country. This initiative reduces energy costs for households that may be connected to the grid but are not able to afford geysers, and that therefore use electric kettles, paraffin stoves or other inefficient or unsafe ways of heating water.

An insulated ceiling provides one of the most effective means for reducing energy use for internal space heating in winter. Not only does it reduce household expenditure on coal, fuel wood or paraffin for heating; it also avoids associated environmental and health costs, such as indoor and outdoor air

pollution, respiratory problems and the risk of stove-related fires. Applying ceiling insulation in low-income homes directly builds household resilience through enhanced comfort and financial savings. The Cosmo City project in Johannesburg took on the challenge of climate-proof, low-cost housing by planting grass and indigenous trees, in addition to adding ceiling insulation, SWHs and efficient lighting.

The Basa Njengo Magogo is a unique project in Gauteng. Here, a method for efficient coal-burning was discovered accidentally by a community member, after which several government agencies disseminated the technology more widely. A national, government sponsored biogas digester project in Schaapkraal, an agricultural part of Cape Town, benefits residents of neighbouring informal settlements by supplying them with biogas for cooking at extremely affordable prices. Several of these residents are employed on the farms, which also generate organic waste to feed the biodigester.

Conclusion

Each of the above projects exhibits the flexibility to allow households to utilise diverse technological solutions for their energy needs. They also represent powerful linkages between national policy imperatives for reduced carbon emissions and increased autonomy from global economic shocks, through the generation of own energy and conservation of natural resources such as water and biodiversity; and through attention to household resilience through diverse, flexible and decentralised technological solutions.

Clearly, meeting the urbanisation and globalisation challenges to households requires both micro- and macro-scale strategies, policy responses, programmes and projects. These can be achieved through a climate-resilient, green development agenda, as it opens up opportunities to decouple households from resource dependencies that threaten their future survival. Thus, food, energy, water and transport security for households is the priority in Africa and will require national, city and municipal policies and actions that work together. Such initiatives need to focus on the critical resource security concerns currently affecting African urban households, which threaten to worsen in a future of global economic and climate uncertainty.

Endnotes

1 See: <http://www.globeinternational.info>.

2 See: [http://www.lwec.org.uk/sites/default/files/GLOBE-CLIMATE-LEGISLATION-STUDY\[1\].pdf](http://www.lwec.org.uk/sites/default/files/GLOBE-CLIMATE-LEGISLATION-STUDY[1].pdf) and

<http://www.globeinternational.info/wp-content/uploads/2011/12/The-2nd-GLOBE-Climate-Legislation-StudyFINAL-VERSION.pdf>.

3 See: <http://www.kuyasacdm.co.za>.

Urban Socio-Spatial Change and Sustainable Development:

The Neo-City Phenomenon¹

Responses to Rapid City Growth

Rapid urbanisation in Africa is now widely acknowledged; projections suggest that 50 percent of Africa's population will be urbanised by 2030. National figures are estimated to range from 70 percent for South Africa² to between 54 and 63 percent for Kenya,³ with significant annual rates of change. Particularly in the west, east and central regions of the continent, cities are urbanising rapidly. Urbanisation is estimated to peak at annual average rates of about 6 percent in West Africa to 48.7 percent in East Africa between 2020 and 2030, according to the State of African Cities Report 2010.⁴

This pace of growth has been heralded as creating new economic opportunities through increased demand for consumer goods and services, but it has also raised alarms about rapidly increasing demand for infrastructure and housing in cities and states already faced with severe backlogs in infrastructure and service provision.⁵ Further, the “urbanisation of poverty” can, and often does, accompany these high growth rates in Africa's urban centres.

One of the emerging trends in urbanism and infrastructure delivery in response to this situation has been the neo-city.⁶ Kenya hosts a few notable examples, such as Konza City and Tatu City. In Tanzania, a similar development, Raphta City, is planned. Tatu City⁷ is a ten-year project envisaged as “a world-class, mixed-use, mixed-income new city”. A prototype for the twenty-first century African city, Tatu City is planned to house seventy thousand residents on twenty-four hundred acres of land in Ruiru, an area about twenty-five kilometers north-east of Nairobi.

Konza Technology City⁸, “Africa's Silicon Savannah”, is the subject of a twenty-year plan to build a technopolis in rural (or at best, peri-urban) Kenya. It intends to host business process outsourcing (BPO) ventures, a science park,

Urbanists have claimed that “these neo-cities simply bypass malfunctioning capital cities rather than address broader problems

commercial and residential properties, a financial district, shopping malls, hotels, and a range of additional community support and recreation facilities. The vision is to be implemented on five thousand acres of land in Machakos, sixty-four kilometers south of Nairobi. The project is a joint partnership between the government (which is to provide land and some financing) and the private sector, which is to essentially put up the development.

These large-scale, greenfield projects to create new satellite cities on the edges of large cities mirror similar initiatives in many sub-Saharan countries, such as Zambia, Ghana, Zimbabwe, and Nigeria.⁹ Governments and the private sector market them as “functional”, “desirable” and “sustainable” alternatives to the growing slums, deteriorating and insufficient infrastructure, and inadequate housing for various market segments typical of Africa's sprawling cities.

However, some urbanists have claimed that “these neo-cities simply bypass malfunctioning capital cities rather than address broader problems”¹⁰. Others have argued that the neo-city approach to city-making may only work because it creates “a city of the rich and as always they want to have their own spaces and stay far from civilization, how else did urban sprawl happen? It was because they could afford to have vehicles and with good roads they did not mind forsaking the CBD with all its crowding and congestion for places rustic and



Michael Kihato

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virgin with fresh air”¹¹. Environmental lobbyists have also voiced concern that these projects encourage sprawl and promote destruction of peri-urban natural landscapes.¹²

This article will focus mainly on discussing the (un)sustainability aspects of the neo-city approach by relating it to the broader question of urban infrastructure and housing delivery in African cities. We will also aim to put these developments in context, noting that they are not limited only to the rich. Very similar sprawling developments are created by and for lower income segments as well. As for functionality and desirability, these require a separate conversation. But we sense that the question here will always be, “For whom are these developments created?”. This might be asked, for example, in the case of gated communities.

We argue that while neo-city initiatives might represent an understandable response in the face of limited infrastructure, the approach to housing and infrastructure delivery also results in islands of service that negatively affect city planning and erode the ability of the state to deliver lifeline subsidies to the poor. Ultimately, we submit, they

negatively affect housing affordability. However, we do recognise that some useful principles arise from these approaches to development, and are worth noting.

Importance of Infrastructure and Housing

Infrastructure is important for both economic growth and poverty eradication. Observations regarding the problem of inadequate and insufficient infrastructure in Africa are not new. The numbers bandied about vary, but are universally enormous. According to the African Development Bank, transforming Africa’s infrastructure will require an additional USD 31 billion a year in investment, as well as major efficiency gains.

This is not a uniquely African problem, however - backlogs in infrastructure provision are common across the world.¹³ Yet Africa does present a much more fundamentally challenging situation: in the majority of countries, large backlogs starting from a low base are coupled with weaker institutional and financial systems. In addition, formal housing supply is dependent on the relevant authorities delivering sufficient infrastructure.

*Computer generated
image of Konza Techno
City © Konza Techno City*

Thus, the relationship between healthy housing markets and infrastructure is an intimate one. According to one writer, “in most emerging economies, acquiring land and financing land infrastructure remains the toughest and most enduring challenge, and represents a formidable disincentive against the development of formal affordable housing units”.¹⁴

This challenging relationship between infrastructure and housing has a number of significant and problematic consequences - for example, insufficient financeable housing stock (in quantity and/ or quality), affecting the legality of settlements,¹⁵ creating tenure insecurity and discouraging self-build.

Reasons for Inadequate Infrastructure

The reasons for massive infrastructure backlogs in Africa may be attributed generally and specifically to a range of factors. Key factors may be summarised as follows.

1. *Most African countries do not have the ability and resources to adequately finance infrastructure.* Provision of infrastructure for services such as water, sanitation and electricity is a role usually performed by municipal governments. This function requires financing for capital expenditure (to build and extend the infrastructure), as well as recurrent financing (to maintain and fund day-to-day operations). These resources are usually sourced through a combination of national transfers, municipal revenue collection, borrowing and donor funds. However, all of these sources have been constrained by a range of factors, including economic dynamics, municipal capacity and creditworthiness, costs and consequences of financing arrangements, and so forth.
2. *Critical questions around governance and corruption in many African governments hamper the implementation of infrastructure projects across the continent.*
3. *Rapid urbanisation creates growing demand.* The pressures of rapid

urban growth are constantly creating ever greater demands on infrastructure finance and delivery. This means that even with relatively capable regional municipalities enjoying good revenues and substantial national government grants, the moving target of urbanisation presents a major challenge.

4. *Decentralisation increases the responsibilities of local government,* often without the requisite revenue raising capabilities, hampering its ability to deliver infrastructure and services. Tendencies such as centralised financial decision making and national sensitivities around tax rates and tariff increases serve to constrain municipal revenue raising capacities.

Adaptations to the Challenges of Housing and Infrastructure Development

Housing development in Africa has been faced with major challenges, including that of financing the necessary infrastructure. Accordingly, there have been two key responses over time.

The first response has been a *shift toward a stronger role for non-state actors in infrastructure delivery.* Traditionally, infrastructure has been provided by the public sector, funded by large scale borrowing, capital intensive and highly centralised. However, primarily as a consequence of state failures, the delivery of infrastructure for housing in Africa has increasingly entailed a larger role for the private sector, donors, multilateral development banks such as the World and African Development Banks, non-governmental (NGOs) and community based organisations (CBOs).



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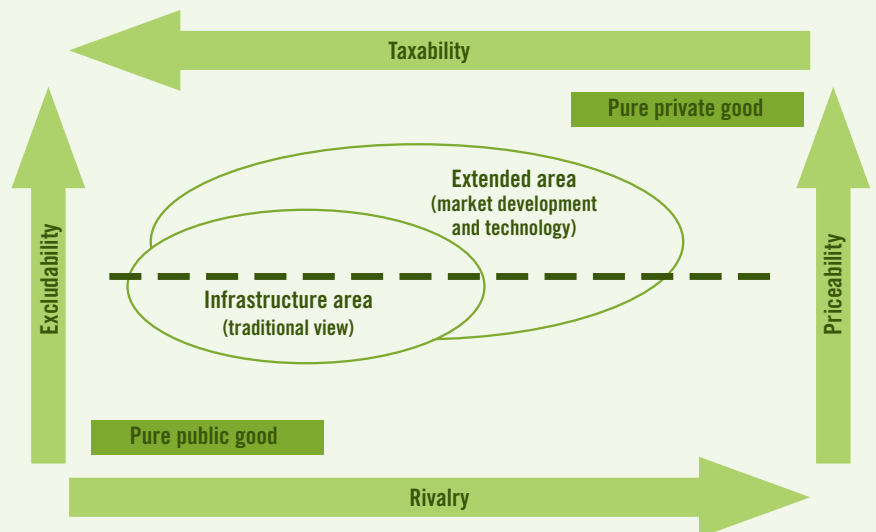


Figure 1: Shifting view on the “publicness” of infrastructure.¹⁹

One consequence of increased private sector delivery arrangements has been a shift toward greater rivalry¹⁶ and excludability¹⁷ of infrastructure (see Figure 1).¹⁸ This shift has reshaped the traditional view of infrastructure development and financing; price and user charges (or priceability) have gained on taxation. Thus, a much larger range of goods and services (including infrastructure), traditionally classified as tax-financed public goods, is now regarded as constituting “priceable” self-financing activities within or outside of government budgets.

It is important to note, however, that it is not only the private sector that has picked up the public sector slack. NGOs, community development organisations and microfinance institutions are increasingly involved in infrastructure provision, particularly in the self-financed and less formal development arenas. These entities use donor funds and the collective power of community savings and loans to households to fund housing and infrastructure provisions. Due to the high costs of external infrastructure, they often lobby for its provision by government agencies.

Household self-financing is also increasingly common. According to the African Infrastructure Country Diagnostic, households are today the largest financiers of sanitation, devoting substantial resources to developing their own on-site facilities.²⁰ Unlike the very linear formal housing and infrastructure development life cycle, self-finance is less formal, more incremental and iterative, and takes longer. Infrastructure is often not part of the initial building process, but is progressively developed over time, along with the house.

The second response to the housing and infrastructure delivery challenge has been *the rise of project-led infrastructure delivery*. Due to the lack of sufficient infrastructure to support housing development, infrastructure development for housing has increasingly become linked to projects. In this model, housing actors combine housing delivery projects with infrastructure delivery. This is done by all players in the housing delivery landscape, be they those involved in slum upgrading, the private sector, or CBOs and housing microfinanciers. An example of the latter is Jamii Bora’s housing project at Kaputei Town, sixty kilometers from Nairobi: a greenfield project aimed at creating two thousand affordable housing units for ten thousand households, including social

So even where they may bring positive delivery innovations, these initiatives tend to create patches and pockets of development in an otherwise poorly coordinated or planned landscape.

amenities and a commercial area. While this kind of NGO-led intervention may not have the same target market as does a Tatu City, its delivery principles are not in fact dissimilar.

Urbanists have increasingly recognised the inefficacy of these approaches to infrastructure delivery. For one, given scale and the world’s limited resources, the current standards and limited use of new technologies generally applied will not allow for the considerable existing backlog to be met. In addition to the stark realities of increasing natural resource scarcity (water being of key concern for African cities), according to the African Development Bank, the cost of meeting the Millennium Development Goals (MDGs) in some countries in the region would be in excess of 7 percent of GDP - well beyond what could be feasibly attained using traditional methods of infrastructure delivery.

Unsustainable “Islands of Service”

Furthermore, while project-led infrastructure delivery may have been a necessary innovation, it has made cities unsustainable by creating islands of service. Well-functioning cities and urban areas are products of deliberate visioning on how land is developed, and planned intervention by city authorities. Planning, financing and providing for infrastructure (including services such as water, electricity, sanitation and other infrastructure related to transport and social amenities) are integral to this long term visioning and planning process.

However, project-driven infrastructure delivery by CBOs, NGOs, the private sector and other organisations in effect undermines this process. These parties often determine how and where development happens. This means that the state loses a potentially important tool to incentivise and guide the shape of urban development. So even

where they may bring positive delivery innovations (such as decentralised sewerage treatment, water recycling and energy generation), these initiatives tend to create patches and pockets of development in an otherwise poorly coordinated or planned landscape.

Project-driven delivery also affects the ability of governments to cross-subsidise infrastructure and services delivery. This is because the capital costs of private sector development are passed on directly to the end user, raising the costs of housing provision. While subsidy systems may not be perfect, some can be a lifeline to many households – especially those systems targeting operational expenses and directed at the poor through free basic services. The role of government financing through the fiscus and through local and other revenues is key in this process. The loss of subsidies to the poor is also often worsened by the fact that these poorer households may have to pay even higher costs for the service.²¹

There Is Still a Role for the State

It is important to recognise that many of the problems of poorly planned and limited local infrastructure for housing are caused by a lack of well developed and capacitated local governments. Addressing the symptoms of this situation by

simply bypassing or usurping the state's role in key aspects of infrastructure delivery ignores some basic principles relating to the state's key role in supporting certain socio-economic activities. According to Pollitt, important reasons for a state role in infrastructure delivery include: 1) the existence of commercial activities with significant external benefits (e.g., achieving urban spatial quality and justice); 2) the capacity to finance public goods; and 3) distributional benefits (equity and access).²²

In the case of housing and infrastructure delivery, the state's role in strategic planning and forecasting is crucial. It could be argued that the previously envisaged exclusive role of the state in delivering infrastructure during the period immediately following independence until the late seventies is no longer necessary or viable; nonetheless, the state still has a critical role to play in ensuring that the entire city is functional, sustainable and inclusive. Better planning of cities by state authorities is needed to improve both the efficiency of housing and infrastructure delivery, as well as to produce a good finished housing product and environment. The state needs to reassert, in a constructive way, its role in planning and managing urban development.

Also, given the nature of African urbanisation,

The low-cost Jamii Bora Kaputei development near Nairobi © Francis Minien



affordability for the poor will continue to be a key issue of concern – especially if the trend toward passing all infrastructure development and running costs to housing consumers becomes dominant. Where multiple institutions besides the state become the principal drivers of infrastructure delivery and maintenance, primary delivery mechanisms for subsidies are constrained. State reassertion of its role in the broader city-wide planning has to include the development of financial mechanisms that can pass on subsidies to poorer members of society.

However, it is also evident that many African cities have suffered from poorly functioning local governments that struggle with their infrastructure planning and delivery mandates. The planning, financing and implementation capacities of city governments must be built to meet their infrastructure delivery responsibilities. The capacity building agenda must include:

- *Bolstering cities' capacity* to raise finance for capital and recurrent infrastructure expenditures; this means the efficient collection of rates, service charges and other revenues; pricing services appropriately; and even dealing with losses from infrastructure through leakages and pilferage that are costly.
- *Reforming finance systems*, including promoting sound macroeconomic management for greater infrastructure and housing development.
- *Attending to recurring issues* such as the provision of tenure security, reform of high and unrealistic standards for infrastructure development and building, and improved planning.

Necessity Has Bred Some Innovation

While we challenge the sustainability of the neo-city approach, the principle of project driven development that creates its own infrastructure is not without merit. It offers some distinct advantages.

For one, such developments have rapidly advanced the uptake of technological innovation in infrastructure and housing delivery. Some, for example, have used alternative energy sources (such as solar technology) to deal with the lack of bulk infrastructure and the prohibitive cost of providing it. The low-cost Jamii Bora Kaputei development on the outskirts of Nairobi is an example. Many urban centres in Africa are recycling waste water through localised treatment plants –

Without sufficient forethought and thoughtful, deliberate planning, neo-cities have the potential to simply exacerbate Africa's urban sprawl and the deepening infrastructure problems that go with it.

for example, in housing developments in Abuja, Nigeria. In addition to being more ecologically sustainable, ultimately such solutions can contribute to creating residential and commercial developments in urban environments despite the serious infrastructure shortages, and even reduce their financing costs.²³

Significantly, meeting Africa's infrastructure and housing backlogs and its future demand will certainly require more than the grand scale, capital intensive, once-off projects that governments might be able to pull off. A range of financing approaches will likely still need to be pursued, including everything from small and incremental household financing to private sector, NGO and other externally supported projects. However, these approaches must be carefully considered relative to inclusion and sustainability.

All in all, the neo-city trend needs careful analysis, so that its potential benefits can be plugged into comprehensive, long range urban strategies. Without sufficient forethought and thoughtful, deliberate planning, neo-cities have the potential to simply exacerbate Africa's urban sprawl and the deepening infrastructure problems that go with it.

Conclusion

We recognise that current and future housing and infrastructure demands in African cities can only be met by drawing in and attracting diverse financial resources and delivery mechanisms, including local households and private sector, donors, and foreign investors. However, we argue that sustainability must be given serious and deep consideration. Band-aid approaches that bypass the critical role of the state - even if the capacity is yet to be built there – are not going to serve broader and longer range African urban interests.

Endnotes

- 1 This paper draws substantially on an earlier paper entitled “Infrastructure and housing in Africa: Asserting the financial dimension”, prepared by Michael Kihato for the Planning Africa Conference, 17–19 September 2012, Durban, South Africa.
- 2 National Planning Commission, *National Development Plan 2030: Our future - make it work*, Republic of South Africa, 2012.
- 3 Republic of Kenya, *Kenya Vision 2030*, 2011, <http://www.vision2030.go.ke>. UN estimates have gone as high as 63 percent.
- 4 UN-HABITAT, *The State of African Cities Report 2010: Governance, Inequality and Urban Land Markets*, United Nations Human Settlements Programme (UN-HABITAT), Nairobi, 2010.
- 5 See: www.howwemadeitinafrica.com, “Why cities, not countries, should drive investment decisions in Africa”, <http://www.howwemadeitinafrica.com/why-companies-should-focus-on-africas-cities-not-countries/18320/>; McKinsey Global Institute, *Urban world: Cities and the rise of the consuming class*, 2012, http://www.mckinsey.com/insights/mgi/research/urbanization/urban_world_cities_and_the_rise_of_the_consuming_class.
- 6 “Neo-city” is a term used by Pauline Sabatini (2011). It is a convenient but non-scientific catch-all, referring to the emerging trend of “new cities” that come to exist through various means and approaches, mainly as non-state sector led housing subdivisions. These tend to be peri-urban development enclaves, sometimes becoming new satellite towns or charter cities.
- 7 See: <http://www.tatucity.com>.
- 8 See: <http://www.konzacity.co.ke>.
- 9 Sabatini P, *Tatu City: A Comprehensive Masterplan?*, *Think Africa Press*, 3 November 2011, <http://thinkafricapress.com/kenya/tatu-city>.
- 10 *Ibid.*
- 11 Poestreet, “Konza City: My Humble Critique”, *Tomorrow's Paper / Poison City Blog*, 11 May 2012, <http://tomorrowpaper.wordpress.com/2012/05/11/konza-city-my-humble-critique/>.
- 12 AllAfrica.com, “Outcry of Konza trees”, 2012, <http://allafrica.com/stories/201207180091.html>.
- 13 In England, for example, housing supply in recent times has been recognised as low and unresponsive because among other difficulties, there have been cutbacks in both public sector direct investment in housing and indirect investment in infrastructure to support development.
- 14 Chiquier L, Construction finance in emerging economies, in: Chiquier L and Lea M (eds), *Housing Finance Policy in Emerging Markets*, The World Bank, 2009.
- 15 Provision of infrastructure for land development is often a requirement for land developments to be legally recognised and authorised by local governments. In South Africa, for example, declaration of a township is dependent on (among other things) the fulfilment of conditions regarding road construction, water supply, electricity, sewerage reticulation and purification, and other services. The fact that infrastructure has not yet been provided to a substantial portion of housing means that subsequent development without adequate, approved infrastructure is illegal.
- 16 In economics, “rivalry” is a characteristic of a good. A good exists on a continuum ranging from rivalrous (rival) or non-rival. The same characteristic is sometimes referred to as *subtractable* or *non-subtractable*. A rival (subtractable) good is one whose consumption by one consumer prevents simultaneous consumption by other consumers. In contrast, non-rival goods may be consumed by one consumer without preventing simultaneous consumption by others. Most examples of non-rival goods are intangible.
- 17 In economics, a good or service is said to be excludable when it is possible to prevent people who have not paid for it from having access to it, and non-excludable when it is not possible to do so.
- 18 Calitz E and Fourie J, Infrastructure in South Africa: Who is to finance and who is to pay, *Development Southern Africa*, Vol. 27, 2009, pp. 177-191.
- 19 *Ibid.*
- 20 African Infrastructure Country Diagnostic, “Fast Facts: Water Resources, Irrigation, Sanitation, and Supply”, 2010, <http://www.infrastructureafrica.org/system/files/AICD%20Water%20Facts.doc>.
- 21 In water provision, for example, the poorest in informal and slum areas have to rely on vendors, who have higher unit costs as they cannot access the economies of bulk treatment and supply. Angolan *museqqe* residents pay ten thousand times more for water from private sellers than do households with formally treated and piped water. See: Cain A, Housing microfinance in post-conflict Angola: overcoming socioeconomic exclusion through land tenure and access to credit, *Environment & Urbanization*, Vol. 19, No. 2, 2007, pp. 361–390.
- 22 Pollitt M.J, The declining role of the state in infrastructure investments in the UK, in: V. Berg S, Pollitt M.J, Tsuji M (eds), *Private Initiatives in Infrastructure: Priorities, Incentives, and Performance*, Massachusetts: Edward Elgar Publishing, 2012.
- 23 There are acknowledged misgivings that total “off-grid developments” may not be feasible for larger households with greater energy demands. In terms of sustainability, the viability of settlement level dispersed water treatment plants is also debateable. Nevertheless technology does provide some alternatives in reducing the costs of financing full, traditional infrastructure for housing.

“We Are Here”:

A Woman’s Journey of Life in Kibera

“There is a reason why people live in the slum.”

Millicent was bending over her paraffin stove, placed on top of the coffee table in her ten-by-ten-foot home in Mashimoni – one of twelve villages in Kibera, the largest slum in sub-Saharan Africa. The room was poorly lit, with the only natural light coming in through the portière draping the open door. “You look for somewhere where you can live comfortably”, she continued. “Some people were born here and so this is home. There are people who have stayed here even if their life has improved. They find it is a place where they can do business. Maybe they have children and they want them to go to school. If you move out of the slum and pay ten times more in rent, you will not have enough for school fees.”

Nairobi’s cool breeze ruffled the drapery and the net curtains moved to the breeze, revealing the grey mud walls behind them. It is uncanny how everything – cooking, washing, cleaning, sleeping and entertaining – fits into this small space. Millicent was stirring a pot of *ugali* for our lunch. I was sitting three feet away on a wooden frame sofa with crimson cushions. But the pandemonium of the Nigerian soap opera on the television on the sideboard next to us drowned Millicent’s voice, and I had to edge closer to hear her. She turned and peered through the draped sheet behind her to decant some water from a twenty-litre plastic can. When she emerged, she said: “We make choices to live here”.

I first met Millicent online, sitting at my desk in Johannesburg. Through her website, *Kiviwosheg* (Kibera Visionary Women Self Help), I learned that she was a single mother who had found herself homeless. Her property had been burned down during the 2007 post-election violence in Kenya, and she had been left with a huge debt, no source of income and no place to live. I was working on

a project on women and violence in Kibera, and Millicent’s experience and organisation seemed a good place to begin my research. After a few email and Facebook exchanges, we set a date to meet when I was in Nairobi. A few weeks later, at Ngumo Stage, the north-east entrance into Kibera, I recognised Millicent’s wide face and warm smile from her Facebook pictures. Her black jeans and a knitted off-white sweater hugged her curvy, five-foot-six-inch frame. She was holding her Blackberry in her hands – and for the week I accompanied her through Kibera, she was constantly updating her Facebook page or responding to emails.

It was July 2012, and Nairobi had not seen the sun in days. The grey light evened out the city’s colours so that from a distance, everyone looked dull and faded. But we left the washed-out city behind us as we entered Lainisaba where none of my senses were spared. Waves of human traffic,

Kibera: the eyesore for planners; the experimental playing ground for international development agencies; the boon and bane of Kenya’s politicians; and the blight that Kenya’s middle and upper classes would prefer were invisible.

people in multi-colour swag coming in and leaving, greeted us as we walked in. I struggled to keep up with Millicent, my attention divided between observing what was around me and weaving through the streets’ obstacle course. I learned the hard way that navigating Kibera’s open sewers, garbage piles, sleeping dogs and slippery slopes required all my attention when I fell into a brown



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A view of houses in Kibera, Nairobi © St. Aloysius Gonzaga Secondary School Journalism Club

bog. “Be careful here”, a young boy holding his little brother’s hand was saying, “you don’t want to slip”. I wished I had heard the older boy’s advice to his brother a second earlier. “We walk with change in Kibera”, Millicent eyed me as I got up. “You never know when you will knock over someone’s peanuts and have to compensate them.”

Millicent came to Kibera in 2002 in search of a better life. She is not alone. Between 1980 and 2005, the slum’s population had grown more than ten times. Today the 250-hectare settlement is said to be home to at least seven hundred thousand people. After ten years at a “dead-end” job in Naivasha, a Rift Valley town 100 kilometres north of Nairobi, she quit and moved to fulfil her dreams in Kibera: the eyesore for planners; the experimental playing ground for international development agencies; the boon and bane of Kenya’s politicians; and the blight that Kenya’s middle and upper classes would prefer were invisible. In the first few months, she shared a room with her friend while

she figured out how to earn a living. “I had a friend who was selling *mitumba* – second-hand clothes – at wholesale in Nairobi, and she encouraged me to get a stand and retail her clothes. I rented a stall in Lainisaba and began selling second-hand clothes.”

Lainisaba is Kibera’s business epicentre. Those who live in the slum refer to shop owners here as *watajiri wa Dubai* – Dubai’s wealthy class. Millicent soon learned that there is little demand for second-hand clothes in this part of the slum. Customers prefer new designer label knock-offs. So with what little capital she had left from her savings, she switched to selling designer clothes and bags. “The business was okay”, she said as we wove through the densely knit *vibanda* (stalls) where construction materials, machetes, coal stoves, pumice stones, black market DVDs, clothes, food, drinks and every imaginable item were for sale. “People come to look for money in Kibera”, Millicent said to me as we crossed the railway line that cuts across the slum as it heads westward to Uganda. “And they find

it. Here, it is very difficult to find someone dying of hunger. There is food for everyone's budget. We have plenty."

Millicent's words surprised me, given what I had read about Kibera. With almost 50 percent of the population living below the poverty line, 14 percent with HIV/Aids (a rate more than double the national average), and inadequate water and sanitation systems,¹ the settlement did not seem to be a place where people "had plenty". Moreover, the lives of women in slums gain particular attention in development circles because of the inordinate burdens they bear to simply survive. Raising children; finding shelter, clean water and fuel for cooking; and securing a livelihood – these challenges become all the more difficult in an impoverished environment where few services exist for basic human activities. "Relying on men is not sustainable either", Millicent wrote in an email weeks later, "especially when you consider issues of HIV/Aids and pregnancies. We women have to fend for ourselves." In the context of material deprivation, slum women's experiences of the prejudices of patriarchy, class and ethnicity intensify – increasing their susceptibility to violence, insecurity, poor health and poverty.

After a few years in Kibera, Millicent joined a chama, a credit group, through which she borrowed money to buy a plot of land in Lainisaba and built two rooms and a stall to rent. "After eight months I had paid off my first loan of 75,000 shillings (USD 900). I borrowed another 160,000 shillings (USD 1,900) a few months later to buy an adjacent plot

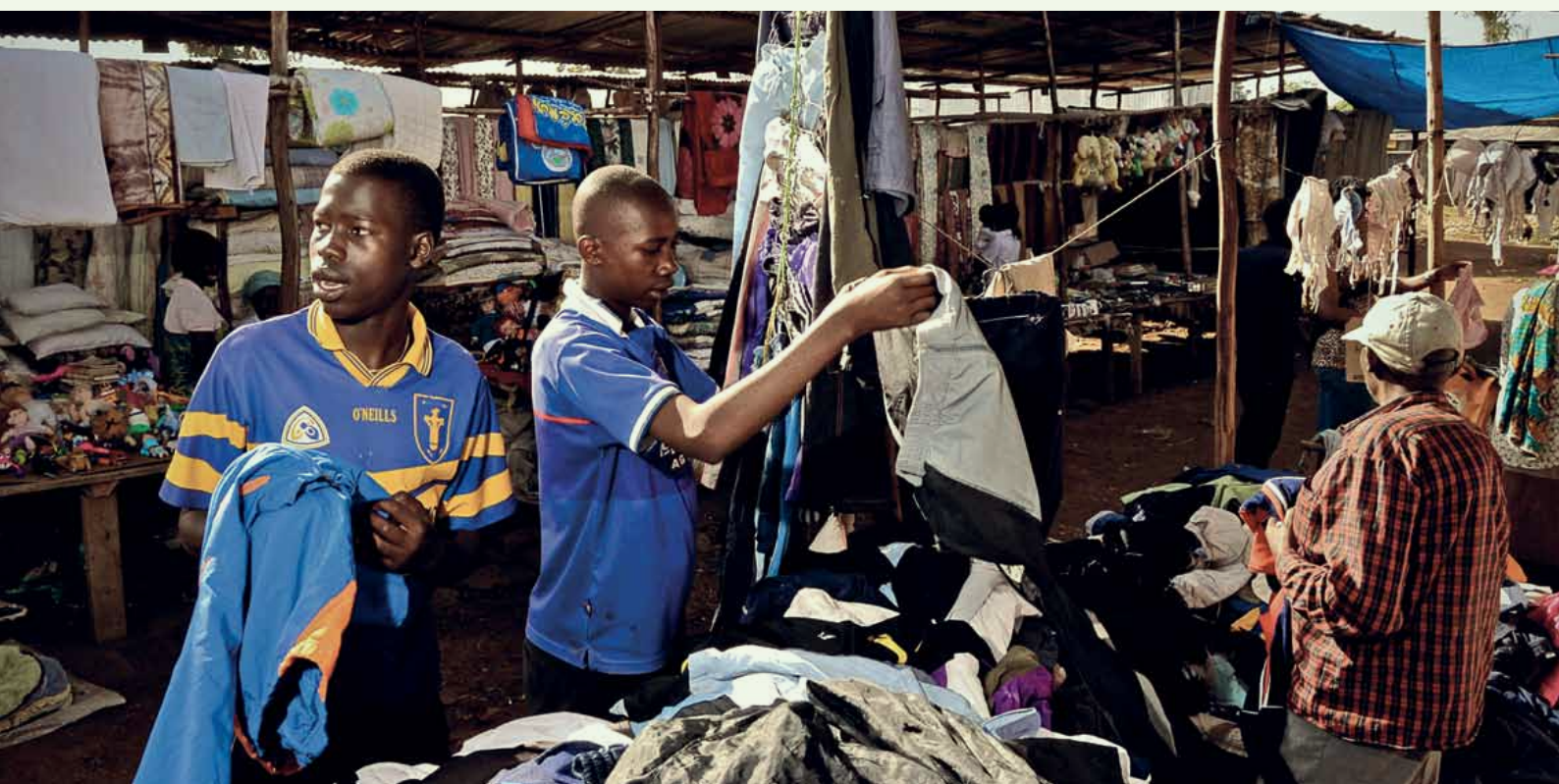
I came to learn that the people we label "poor", "oppressed" and "victimised" have *agency*, and make their own choices about where and how they want to live with the resources at hand.

and built four more rooms. I had just completed the buildings – in fact, my renters had moved into the rooms – when the violence began at the end of December."

Millicent was talking about the 2007 post-election violence that broke out in Kenya over contested presidential results. Kibera was one of the hardest-hit areas. According to the United Nations High Commissioner for Human Rights, about twelve hundred Kenyans were killed, three hundred thousand displaced, and millions of shillings' worth of property and goods destroyed across the country. "Immediately after the results were announced, I saw that there will be a problem because there had been some riots in a nearby market. I took my daughter and moved to my cousin's place outside the slum."

Millicent had reason to be scared. Militia groups in the slum had formed behind the two presidential candidates. The Luos believed that Mwai Kibaki (Kikuyu) "stole" the elections from Raila Odinga (Luo). Millicent was a Luo in Kikuyu-dominated Lainisaba. The ethnic tensions reached their peak at

Young boys at the secondhand clothes market in Kibera © St. Aloysius Gonzaga Secondary School Journalism Club



the swearing-in of Kibaki on 30 December, sparking looting and violence in Kibera that ended only after a peace agreement between the two leaders in February 2008.

“I don’t like to remember those days”, said Millicent. Like the refrain to a song, I heard these words repeated often in the week that I spent talking to women in Kibera. “When the violence started they burned two rooms and my stall where I had my shop. I had just taken a big loan which I had to pay back, and now they had destroyed the business which would have helped me repay that loan.” It is precisely its precariousness and unpredictability that makes building a sustainable livelihood in Kibera difficult. “One minute I was doing okay”, Millicent told me a few days later as we crossed the garbage-choked river between Lainisaba and Mashimoni villages, “and the next I was down, without any idea of where I could get money to live, or even to pay my debts”. The putrid stench from the river, also a children’s playground, clung to our pores. But without skipping a beat, Millicent continued, “My daughter was eleven and I had to send her to *home square* (ancestral home) because I could no longer afford to keep her in school. It was very bad.”

What makes Millicent’s livelihood even more precarious is the fact that both her plots of land belong to the railway company, Kenya Railways. Since its founding a hundred years ago, land in Kibera has remained publicly owned by the state or state agencies. Although there is a thriving land market, where people who occupy the land buy and sell it, they technically do not own it. There are

de facto two systems of ownership: a formal, legal system and an informal, illegal one. Millicent’s legal claim on the land she bought hangs in the balance. In 2006 she received an evacuation notice informing occupants of plans to upgrade the railway line and warning them to leave with immediate effect. Despite the warnings, she still borrowed at 16 percent interest to invest in the second plot. “In business you take risks”, she had said to me. “I weighed the situation and saw that people had been there for many years. If I was given even just two more years, I knew I could make some money from the land. You have to take the risk if you want to get ahead.”

Millicent’s choice of words – we *make choices to live here ... I weighed the situation... you take the risk if you want to get ahead* – stayed with me long after I had left Kibera and returned to Johannesburg. As an urban planner, I was taught that people who lived in slums had no choices. That circumstance – poverty – had forced them to live in extreme conditions of deprivation and lack. I came to learn that the people we label “poor”, “oppressed” and “victimised” have *agency*, and make their own choices about where and how they want to live with the resources at hand.

Yet the term “agency” – people’s ability to shape their circumstances – is controversial. Give agency too little emphasis and you dehumanise the recipients of development assistance, treating them, as Lisa Malkki argues, as “speechless emissaries” who are too vulnerable, weak and desperate to make their own choices.² Too much emphasis on agency risks romanticising the poor, creating

*Stalls by a main
thoroughfare in Kibera*
© Peepoople / Camilla
Wirseen



“Women generally have ideas about where we want to be, but the know-how is the problem. What we need is support, not handouts. A small ‘boost’ can empower us to grow in business.”

heroes and heroines of struggle without admitting to society’s complicity in constructing the obstacles that make it difficult for certain populations to compete on an equal footing. In both instances, those falling under the category “the poor” become cardboard characters, stereotypes that fit certain roles. Our paternalism, on the one hand, and wilful ignorance, on the other, provide a comfortable resting place to lay our collective guilt.

After the violence, Millicent moved back to Kibera, this time to Mashimoni village, where the majority are from her ethnic group. Although she feels safer here, her business investments remain in Lainisaba. In the years that followed she slowly rebuilt her life and livelihood. She renegotiated her loan terms, extending the payment period to allow her time to pay for the houses she had built, and to rebuild those she had lost. When I met her, she had finished repaying her loan and was slowly recovering from the financial setback that the violence had caused. “By 2009 I was stable enough financially to send for my daughter and send her to a boarding school in Karen (a well-to-do neighbourhood in Nairobi). I wanted her to be close to me, get a good education and be better than me. Because her education was disrupted, she had to repeat a class.” The fifteen-year-old was home for her mid-term break during my visit to Kibera. When I asked her what she wanted to be when she grew up, she said confidently, “I want to become a doctor and help people in the slum”.

My conversations with Millicent continued in the weeks following my visit to Kibera. Through

her organisation, Kiviwosheg, she organises skills training and civic education classes for Kibera’s youth with human rights and non-governmental organisations. “Working with the community has helped me heal and deal with my own pain”, she said to me. With Kenya’s elections coming up in early 2013, this work is all the more important, as the threat of repeat violence hangs heavily in the slum. Already, Millicent has noticed that many residents are moving their belongings to their rural homes as the election politics heat up.

In addition to her community work, Millicent has started her own *chama*. “I decided to try to empower other women to come up. Often the problem we have is that we have the business ideas, but not the capital. From some small earnings I got as a youth mobiliser, I decided to lend women money at a small fee to boost their businesses. I do not ask for collateral – it is based on goodwill – but the person must have a business which has existed for some time.”

In many ways, Millicent and many residents of Kibera like her rebuild their lives – weighing their options, identifying their priorities and making decisions based on their circumstances. Large programme interventions may well help those living in slums, but as Millicent says, “women generally have ideas about where we want to be, but the know-how is the problem. What we need is support, not handouts. A small ‘boost’ can empower us to grow in business.”

Yet no matter how much external support is provided to women in slums, it needs to be accompanied by personal determination. In a follow-up email a few weeks ago Millicent wrote, “Acceptance of one’s individual situation is important, then moving forward from that situation is very critical to individual progress. That is what has driven me to where I am today.

As I told you, there is a reason why I am here, and I try to make the most of it”.

For more on Millicent’s story and Kiviwosheg, please visit <http://kiviwosheg.wordpress.com/>.

Endnotes

1 Umande Trust, Centre on Housing Rights and Evictions (COHRE) & Hakijamii, *The right to water and sanitation in Kibera, Nairobi, Kenya*, Nairobi: Umande Trust, COHRE & Hakijamii, 2007.

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Solid Waste Management and Recycling in Nairobi City:

Obtaining Efficiency Gains Through Involvement of the Private Sector

With a population of over three million, Nairobi City produces about three thousand metric tons of waste daily. A study conducted by the Japan International Cooperation Agency (JICA) in 2010 reports that organic waste accounts for the largest share (64 percent), while paper waste is the second largest, contributing up to 14 percent. Unlike the waste of developed cities, plastic only accounts for 11 percent, glass for 1 percent and metal for 1 percent of daily waste. Nairobi's high organic waste profile is a consequence of the high levels of fruit and vegetable consumption. There is an increase in the number of groceries within residential areas, and of hawkers in the central business district selling fruits to individuals on the go.

The Kenyan government has charged its local government authorities with the responsibility of managing the waste, relegating the responsibility of waste management to city and municipal councils. In Nairobi, the City Council Nairobi (CCN) is mandated to conduct waste management within the city. With a budget of KES 500 million (USD 5.8 million) a year and only eight garbage collection trucks at its disposal, the CCN says its work is limited to the central business district; it cannot deploy its own staff to conduct waste management activities in the residential areas.

Consequently, the council entered into agreements with community based organisations (CBOs) in informal settlements such as Embakasi, Kayole, Kibera, Mathare and Kawangware to facilitate waste collection in these residential areas. The organisations are registered under the ministry of youth. The council provides them with a letter of authority to engage in collection at a renewable fee of between KES 500 to 1000 (USD 5.80 and 11.60) per year. However, these CBOs charge residents a fee of KES 100 to 200 (USD 1.15 to 2.30) per week, which is a hefty price for poor urban dwellers to pay. Consequently, they dispose of their waste

haphazardly in non-designated areas so as to avoid waste disposal costs.

Similar arrangements have also been extended to formal settlements, where licensed private garbage collectors charge households a monthly fee of between KES 500 and 1000 (USD 5.80 and 11.60) for their services.

Recyclers' Aspirations and Struggles

With only a few waste collection points in Nairobi and the high cost of prudent disposal, recycling of waste has been negligible. It is illegal to operate as an informal waste collector in Nairobi, therefore no economy exists for informal collectors as such. Nonetheless, a few small enterprises have tried to engage in recycling businesses. According to Kalama Charles, a director at EcoPost Limited, the increased number of Nairobi's waste recycling companies has created interest among both private waste collectors and community based organisations. These operators feed recyclers with raw materials, such as plastics, which are used to make valuable products for home use. EcoPost, for instance, buys plastic waste materials from collectors to produce fencing posts, which are sold to farmers across the country. The company was set up in 2010; today it has fifteen employees. In the next eight years, EcoPost plans to upgrade its machines so as to diversify its portfolio to include plastic furniture.

Another Nairobi based firm, the Waste Electrical and Electronic Equipment Centre Limited (WEEE) recycles used computers and mobile phones. "We have designated points across the country where we encourage people to deposit used gadgets", says Seth Munyambu, e-waste management officer at WEEE. In the company's yard, electronics are dismantled and the parts used in products such as fencing posts. "We are in partnership with other recyclers, where we sell them raw materials", Munyambu continues. "Waste materials from



Fredrick Otieno

Fredrick is a journalist with *The Standard*, Kenya's oldest independent daily newspaper, where he covers business and environmental stories. He has travelled across the world interviewing leaders on diverse business topics. His recent reports have covered MultiChoice Africa's Digital Migration Dialogue in Sandton, South Africa and IBM's SmarterCity summit in Las Vegas, USA. He is currently pursuing a BSc degree in communication and journalism at Moi University in Kenya.



computers, such as metals, are used in making road signs.”

However, recycling companies face various challenges. For example, an investor is required to obtain a license, and to carry out formalities such as an environmental impact assessment. A license to establish a recycling plant goes for around KES 40,000 (USD 460) annually, and the cost of an environment impact assessment (depending on the consultant) ranges between KES 100,000 and 120,000 (USD 1,150 and 1,380). “If you are engaged in dismantling electronics such as computers, and shipping of parts which could not be recycled locally, such as the motherboard, you incur additional cost”, Mr. Munyambu reveals. “Each consignment of dismantled computer and other electronics parts shipped out of the country is charged KES 30,000 (USD 345).” Entrepreneurs say these charges are prohibitive, and that they are slowing down projects targeting waste management and recycling in the city.

The Clean Kenya Campaign (TCKC) argues that waste is an untapped resource in Nairobi, and that its management should not be left solely to local government authorities. “The National Environment Management Authority needs to fast track policies

that would create participation of the private sector in waste management”, says Odhiambo Oketch, executive director of the campaign.

It is clear that the Nairobi’s city council is overwhelmed with waste management, which is why it has arranged with the private sector to collect and dispose of waste on its behalf. Existing arrangements, however, need to be reconfigured, as stringent regulations, a lack of subsidies and excessive costs for setting up a business all form barriers to private sector engagement in waste recycling.

Closing waste loops can play a key role in generating economic activity and employment in Nairobi – as well as bringing benefits to other sectors, such as agriculture and energy. A wide variety of potential partners, ranging from global funding and assistance agencies to the local private sector and informal and non-profit agencies, can contribute to realising a zero-waste urban society in Nairobi. What is critical, however, is the vision and leadership, as well as the skills and expertise, to effectively realise an integrated urban waste strategy that acts across sectors and scales to close waste loops within the city.

Dandora dumpsite in Nairobi © Fredrick Otieno

MEGA MINGIEDI

Mega was born in 1976 in Kinshasa, Democratic Republic of Congo. He divides his time between Kinshasa and Johannesburg, South Africa.

Mega's works include cartography, collages, graphs, paintings and installations that fuse the real and the imaginary to reflect on urban space. In dialogue with urban theorists and practitioners such as Eyal Weizman and Teddy Cruz, Mega seeks to subject urban post-colonialism to artistic critique. He is particularly interested in exploring contradictions between the striking vitality and daunting violence - economic, social, spiritual and political - that characterise post-colonial spaces.

Mega studied at the Institut des Beaux Arts de Kinshasa and the Académie des Beaux Arts de Kinshasa, as well as at the Ecole Supérieure des Arts Décoratif in Strasbourg, France. He is a member of the Kinshasa collective Eza Possibles, which promotes exchange and collaboration among contemporary artists.



About the artwork

Title: Kin Delestage, 2010

Dimensions: 44cm x 125 cm

Technique/ Material: Mixed media on paper

Courtesy of the artist.

Published by the Heinrich Böll Foundation Southern Africa 2012



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Editors: Layla Al-Zubaidi and Jochen Luckscheiter

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Layout: Catherine Coetzer, c2designs

Cover image: © Mega Mingiedi

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