

building equality, building resilience

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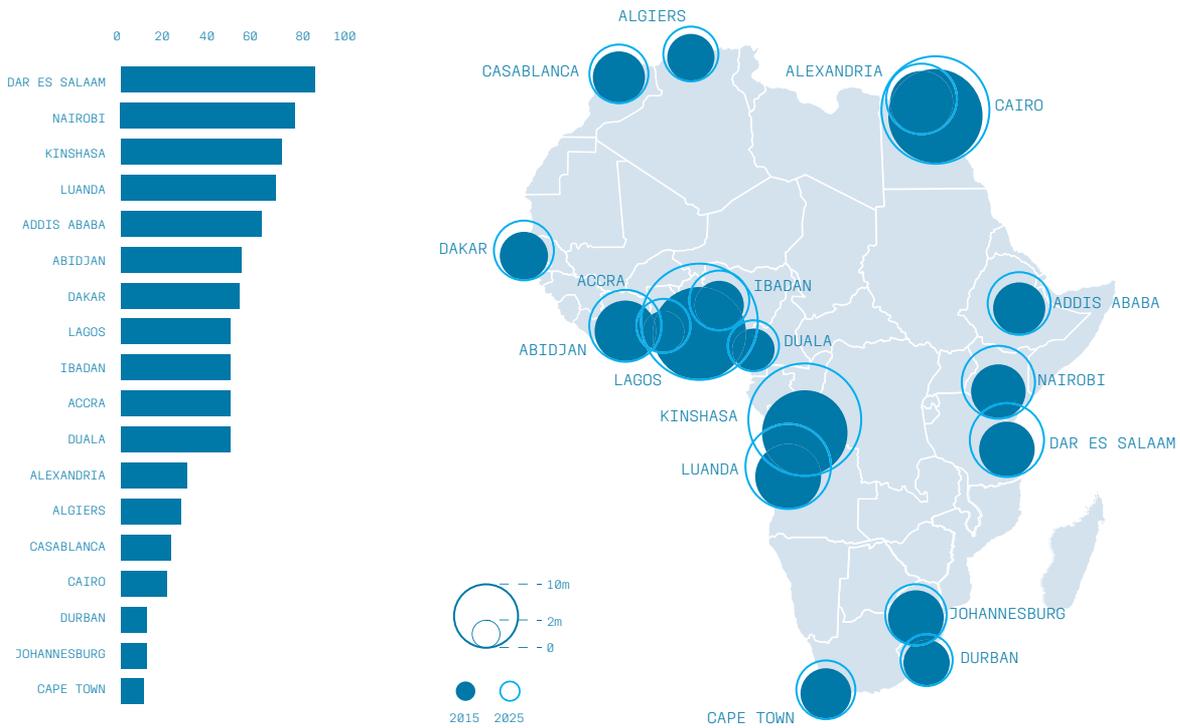
POLICY BRIEF

AFRICAN
URBAN
RESEARCH
INITIATIVE

Initiative Africaine de Recherche Urbaine

05

**HOW CAN AFRICAN
CITIES BETTER
MANAGE THE IMPACTS
FROM INCREASING
GLOBAL SHOCKS
WHILE EQUITABLY
ADDRESSING THE
INFRASTRUCTURE
AND BASIC SERVICES
GAPS THAT CONTRIBUTE
TO THE CITIES'
VULNERABILITY?**



GROWTH OF AFRICAN CITIES (Percentage increase, 2010-2015 forecast)

Source: UNHABITAT



RISKS FACED BY CITIES TODAY

Source: UNHABITAT

EXECUTIVE SUMMARY

Africa's cities are facing increasingly frequent shocks connected to climate change, economic instability, public health catastrophes and global conflicts. These rapidly growing cities are already stressed by high levels of poverty and informality, lack of infrastructure and poor planning. National resilience plans tend to be reactive and short term. Local governments need to urgently implement measures to improve resilience and reduce disaster risk.

By improving infrastructure and service delivery, a city is better equipped to handle shocks and stresses. At the same time, the equality gap that underlies so much of urban African vulnerability is addressed. Identifying sustainable infrastructure improvements will require innovative problem-solving. Local authorities should adopt a collaborative governance style that involves the informal sector. This can be done by initiating pilot projects and creating platforms for networking and discussion. Relevant data is vital for early warning system plans and for a city's resilience, as are dedicated budgets and adequately equipped human resources.

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RECOMMENDATIONS

Policymakers and government officials need to:

- Build resilience by providing low-cost and labour-intensive infrastructure and service delivery to address existing gaps and inequalities. This will also strengthen the city's ability to deal with shocks and stresses. The focus should be on renewable energy systems, low-carbon building and transportation, and improved management of ecosystem services.
- Adopt a flexible and collaborative governance style that engages all stakeholders, including the informal sector, to find resilient solutions to infrastructure needs and service provision. Authorities should support innovative practices with more lenient regulations, while still enforcing national health and safety standards.
- Develop locally relevant resilience plans and early warning systems based on data analysed in collaboration with civil society, business and the research community. Plans should be developed at the city scale and should complement and support national plans and be linked to global challenges where appropriate.
- Allocate resources to plans: A dedicated budget for disaster mitigation is essential. Human resources identified in the articulated plans must have clear mandates, lines of authority, and proper training and resources to fulfil their mandates.

INTRODUCTION

Cities are increasingly facing shocks and stresses connected to global events or forces. These include impacts related to climate change (extreme weather, rising seas, erosion, floods, drought, fire)¹, economic instability, rapid in-migration, terrorism, violence, and public health catastrophes. These problems are likely to rise in frequency and impact as the globally connected world becomes increasingly urbanised. By 2020, some 90-220 million people will suffer increased water shortages due to climate change. In the coming decades, the homes of 16-27 million people may be flooded annually, with damages of US\$5-9 billion a year.² Power generation, price spikes and food shortages are other associated problems that could occur in future.³

African cities are particularly hard-pressed to handle additional shocks due to high levels of poverty and informality, poor

CHRONIC STRESSES

Stresses weaken the fabric of a city on a daily or cyclical basis. Examples include:

- High unemployment
- Overtaxed or inefficient public transportation systems
- Endemic violence
- Chronic food and water shortages.

ACUTE SHOCKS

Acute shocks are sudden, sharp events that threaten a city. Examples include:

- Earthquakes
- Floods
- Disease outbreaks
- Terrorist attacks.

Source: Rockefeller 100 Cities

planning, inadequate infrastructure and public service delivery, political systems that lack transparency and accountability, and high levels of economic and social exclusion.⁴

By 2050, about 60% of Africans will live in cities.⁵ 72% of African urbanites already live in informal settlements.⁶ New growth is predicted to concentrate on marginal lands (wetlands, floodplains, steep hillsides, near hazardous waste)⁷, which lack the infrastructure and services that can help mitigate shocks.⁸ Thus, pressure on already deficient urban infrastructure, public services and governance is dangerously high.

Poverty and insecure land tenure further inhibit sound urban development practice.⁹

National responses to resilience planning are generally reactive and short term¹⁰, and are detached from forecasted problems, existing service delivery needs and governance challenges. National responses fail to incorporate specific local vulnerabilities and capacities. In addition, most African cities have very little influence on national resilience policies or budgets.¹¹

¹ Taylor & Peter 2014: 3

² Wilson & Smith 2015: 3

³ Taylor & Peter 2014: 7

⁴ Taylor & Peter 2014: 7; Wilson & Smith 2015: 1

⁵ UN-Habitat 2010

⁶ Habtezion et al. 2014: 5

⁷ Habtezion et al. 2014: 5; Wilson & Smith 2015: 5

⁸ Taylor & Peter 2014: 3

⁹ Wilson & Smith 2015: 4

¹⁰ Habtezion et al. 2014: 5-6; Wilson & Smith 2015b: 5

¹¹ Habtezion et al. 2014: 7, citing UN-Habitat 2010

¹² Taylor & Peter 2014: 6

¹³ Harrison et al. 2014: 46

¹⁴ Harrison et al. 2014: 69-70

¹⁵ Habtezion et al. 2014: 7-8

¹⁶ Harrison 2014: 42; Seeliger & Turok 2013: 193

¹⁷ Seeliger & Turok 2013: 193

¹⁸ Seeliger & Turok 2013: 188

RESILIENCE DEFINED

Resilience refers to the ability of a system, community or society exposed to hazards to resist, absorb, accommodate and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions.

Source: UNISDR

RESILIENT

INFRASTRUCTURE FOR ALL

Given limited resources, African city governments must build resilience into plans for increased infrastructure and basic service provision. Current deficits in these areas represent an opportunity to strategically adopt more resilient and sustainable urban development choices that avoid high-carbon, resource-intensive growth. Any new infrastructure investments should thus be measured by how well they measure up in terms of reduced energy requirements and greater efficiency.¹²

As a first principle, cities should use densification to guide infrastructure development. This means that space and land use are maximised so that all daily needs are available within walking distance in every neighbourhood (thus reducing transportation needs and energy inputs)¹³. New infrastructure investments should be judged on their contribution to reducing energy requirements and improving efficiency.

To improve energy efficiency, municipalities should consider smart grids to manage peak demand and provide greater system responsiveness; support for renewable energy production (including grid-interactive

connections for households producing solar energy so they can feed surplus power into the grid); increased energy storage; and low-carbon transport solutions (including non-motorised mobility)¹⁴. Offering incentives for voluntary use of green building practices or making certain practices mandatory (for example, energy and water efficiency regulations) will increase resilient infrastructure development. Extending the life of buildings (conversions and upgrades of inner city structures instead of demolitions); retrofitting buildings for energy efficiency; and encouraging reuse and recycling of construction materials will all lower urban energy requirements.

Improved ecosystem management and integration of ecosystem management with new infrastructure development can build resilience at a relatively low cost. Improved ecosystem management can also assist in flood management, water purification, storm water attenuation, water infiltration, short-term drought impacts, erosion and heat mitigation.

A FLEXIBLE APPROACH

Urban local governments should adopt a more flexible and transparent governance style¹⁵ that embraces informal living as an integral part of the larger city.¹⁶ This can benefit local governments who seek to improve resilient infrastructure while also addressing problems of informal living. An adaptive governance approach allows for proactive efforts to build local capability and invest in robust local systems citywide. It is a transparent, flexible and collaborative approach that actively involves all stakeholders in practical problem-solving.¹⁷ Through this iterative process, governance is shifted. By pushing for more lenient forms of regulation to support entrepreneurship, innovation and private service provision, local government accommodates informal and interim solutions within the more formal system¹⁸, while still enforcing health and safety standards.¹⁹

The adaptive governance approach requires collaborative management and practical involvement from all public service sectors, including engineering, housing, planning, community protection and economic development departments. Local government should also engage with a wide range of

state and national government actors.²⁰ To encourage this collaboration, local government authorities create enabling environments for shared action and responsibility across municipal departments and/or with stakeholders from the private sector, nongovernmental organisations, research bodies and community organisations.²¹

Land tenure is a priority intervention as improved land tenure security fosters stability and the sense of a shared future. This encourages investment in the higher quality infrastructure and upgrades that increase resilience (for example, better housing, road systems and green spaces)²². Authorities should consider an incremental approach to securing land tenure that allows land rights to be increased over time in line with rising incomes.

MAKE A PLAN

To develop locally relevant resilience and early warning system plans, regular collection and analysis of local data is essential. Resilience plans should be based on developing a clear understanding of local vulnerabilities and the adaptive capacities of the urban system.²³ For example, using computer modelling, collected data can inform resilience assessment platforms, which then form the basis for associated institutional architecture.

City authorities should work hand in hand with civil society, business and the research community to develop and use extensive and diverse networks to collect data. Generating and sharing knowledge (such as case studies) on how other cities manage resilience is useful.²⁴ Traditional authority is still respected in many parts of Africa, especially concerning environmental issues and natural resource allocation. Such institutions should be considered in terms of their ability to promote or undermine resilience efforts.²⁵ Early warning systems that improve response times to crises need to be developed. Key areas for research and knowledge gathering here include monitoring and measuring relevant systems (for example, upstream river flows and rainfall patterns); determining the probability,

magnitude and frequency of possible events; determining the populations and localities most likely to be affected by events; and highlighting these areas of exposure, hazard and vulnerability by collecting and plotting all information on maps and databases.²⁶

All plans should include adaptation strategies that directly focus on the key vulnerabilities of the urban poor.²⁷ An important part of response is prevention, thus the focus on the poor should include improved spatial planning, reformed regulations to foster economic growth, and infrastructure and public service development that supports informal livelihood systems and economies.²⁸

Although plans must be developed at the city scale, including community and neighbourhood levels, they should complement and support national plans, and close cooperation between local and national authorities is essential.²⁹ Furthermore, cities worldwide have a role to play in responding to and addressing global problems. City decision-makers must therefore work in partnership with regional and national governments to voice their particular needs and contribute their strengths and capacities to the global challenges at city level. In an

increasingly urbanised world, city development and global challenges must be understood as interconnected.

ALLOCATING RESOURCES

Local governments should have a dedicated budget for disaster mitigation and risk reduction. Human resources also need to be trained and properly equipped. All the key stakeholders involved in the plan require clear mandates and should work constructively with other spheres of government to deliver humanitarian or emergency aid. Clearly designated lines of authority should be established so that institutions (police, military, aid agencies) have a clear, predetermined framework for cooperation and action in times of disaster.³⁰

RESILIENCE CHALLENGES

Aging Infrastructure

Drought

Flooding (Coastal & Rainfall)

High Unemployment

Terrorism



ARUSHA: PROTECTING A REGIONAL DIPLOMATIC HUB

Host to the East African Community and the International Criminal Tribunal for Rwanda, Arusha's visibility makes it a potential terrorist target. Because its water management systems cannot capture, treat and store heavy rainfall, this East African city of 1 million faces both water shortages and flooding threats, the latter impacting its transport system. The municipality is focusing on these key threats by building appropriate security measures to handle threats to diplomacy and integrating its water management strategy into its plans for the transport and road systems.

Source: www.100resilientcities.org

CONCLUSION

African cities are struggling to provide basic services to existing populations, but they should not ignore the need to respond quickly and flexibly to crises. As resources become more restricted and calamitous events occur more frequently, urban resilience may dictate the region's success or failure in the 21st century.³¹ Cities should put adaptive capacity and innovation at the centre of future infrastructure investment. Local government need to address systems of production and consumption that are wasteful, and adapt infrastructure networks and institutions to handle shifting circumstances and unanticipated events.³²

Disaster risk reduction efforts need to focus on people as well as on the built and physical environments. Plans should include all risks, not just those related to climate change.³³ Authorities should approach urban resilience strategies holistically, considering governance, citizenship, economy, the environment and services.³⁴ Urban resilience strategies can help to protect cities against the stresses and shocks that will inevitably come their way, while also addressing the systemic inequalities that make African cities vulnerable. Interventions can start small, and their success should be measured by their ability to improve quality of life and their potential to incrementally drive larger-scale and longer-term change.³⁵

¹⁹ Taylor & Peter 2014: 5

²⁰ Seeliger & Turok 2013: 194

²¹ Seeliger & Turok 2013: 197

²² Taylor & Peter 2014: 5

²³ Taylor & Peter 2014: 7-8

²⁴ Habtezion et al. 2014: 7

²⁵ Ibid.

²⁶ UN-Habitat 2014: 46

²⁷ Ibid.

²⁸ Taylor & Peter 2014: 3

²⁹ UN-Habitat 2014: 44

³⁰ UN-Habitat 2014: 46

³¹ UN-Habitat 2014: 27

³² Seeliger & Turok 2013: 187

³³ Levine et al. 2012: 4

³⁴ Future Cities Africa 2015

³⁵ Taylor & Peter 2014: 5

REFERENCES

Habtezion, S. & Seipt, C. 2014. Governance and urban resilience in Africa: Lessons from START's GEC scoping workshops. UGEC Viewpoints No. 10. Urbanization and Global Environmental Change: Exploring Local Solutions to Global Challenges: 4-8.

Harrison, P., Bobbins, K., Culwick, C., Humby, T.L., La Mantia, C., Todes, A. & Weakley, D. 2014. Urban resilience thinking for municipalities. Johannesburg: University of the Witwatersrand.

Levine, S., Pain, A., Bailey, S. & Fan, L. 2012. The relevance of 'resilience'? HPG Policy Brief 49. London: Overseas Development Institute.

Rockefeller Foundation. 2015. 100 Resilient Cities. Accessed from: www.100resilientcities.org

Seeliger, L. & Turok, I. 2013. Averting a downward spiral: Building resilience in informal urban settlements through adaptive governance. *Environment & Urbanization*. 26(1): 184-199.

Taylor, A. & Peter, C. 2014. Strengthening climate resilience in African cities: A framework for working with informality. Working paper, May 2014. Cape Town: African Centre for Cities, University of Cape Town.

UNISDR. 2007. Terminology: Resilience. Geneva: United Nations International Strategy for Disaster Reduction, version 30 August, accessed 26 March 2013. <http://www.unisdr.org/we/inform/terminology#letter-r>

UN-Habitat. 2014. The state of African cities: Re-imagining sustainable urban transitions. Nairobi: United Nations Human Settlements Programme.

UN-Habitat. 2014b. Towards an African urban agenda. Nairobi: United Nations Human Settlements Programme.

Wilson, R.H. & Smith, T.G. 2015. Climate change resilience in urban Africa: Part I: The policy challenge. *Climate Change and African Political Stability Research Brief No. 29*. Austin: Robert S. Strauss Center for International Security and Law.

Wilson, R.H. & Smith, T.G. 2015b. Climate change resilience in urban Africa: Part II: The resilience policy agenda. *Climate Change and African Political Stability Research Brief No. 30*. Austin: Robert S. Strauss Center for International Security and Law.