Urban Africa Risk Knowledge

Briefing

No. 1. January 2017

Keywords

urbanisation; risk reduction; sub-Saharan Africa; data; capacity

Urban Africa: Risk Knowledge – A Research Agenda

Sub-Saharan Africa's rapid urbanisation presents a significant opportunity to plan and manage more resilient and sustainable towns and cities. Decision makers and risk managers at all levels are rising to the challenge. But they need better information on urban risks and more action at the local level. There is a need to bring together the public health and disaster risk management fields to tackle the spectrum of different risks. *Urban Africa: Risk Knowledge* (Urban ARK), based in nine cities across sub-Saharan Africa, aims to break cycles of urban risk accumulation by bringing together science and policy actors in the production of knowledge and action – an approach we call 'co-production'. New risk reduction innovations are being developed, providing our partners with a real chance to ensure that sub-Saharan Africa's increasingly urban future is more resilient and sustainable.

Harnessing urbanisation for risk reduction in sub-Saharan Africa

Sub-Saharan Africa's population is increasingly urban, with increasing vulnerability to urban disasters of all types and sizes. By 2040, it is forecasted that more people will live in urban than in rural areas, amounting to 854 million urban dwellers.[1] Yet development actors and researchers have been slow to target the 'urban', while the capacity to plan and manage rapid urban growth is lacking in many African towns and cities. This leads to processes of risk accumulation that pose threats to poverty reduction and sustainable development.[2]

Addressing urban data gaps

Stakeholders at all levels are rising to the challenge of urban risk reduction. But major data gaps limit understandings of the nature and scale of urban risk, and how urbanisation is influencing its social and spatial distribution. Most data on disaster losses and everyday health outcomes are aggregated at the national scale. This obscures important differences in how the impacts of different hazards vary across different sizes of urban areas and locations, and between genders, ages, and human abilities.[3]

Major disaster databases also tend to exclude smaller, everyday hazards – ranging from infectious diseases to road traffic injuries and localised floods – despite the significant cumulative impacts they have on the lives and livelihoods of urban dwellers, particularly the urban poor.[4] Analysis needs to be broadened to encompass the full range of hazards affecting the inhabitants of African towns and cities and be encouraged to capture key social characteristics, in particular gender.

Understanding urban trajectories shaping risk

Available data allows us to make some tentative generalisations about urban trajectories shaping risk in African towns and cities. Firstly, smaller urban centres (< 500,000 inhabitants) contain nearly half of sub-Saharan Africa's urban population, and are expected to accommodate a large share of all future urban growth.[5] But many small and intermediate urban centres lack the capacity to plan urban growth, manage risk, and adapt to emerging

Policy Pointers

- Sub-Saharan Africa's population is urbanising, bringing increasing urban risk. Smaller urban centres will become an increasingly important priority area for risk reduction given their demographic importance, rapid growth, high poverty levels, and weak urban governance.
- Detailed local data deaths, health impacts, and material losses are required to understand the nature and scale of urban risk, and how urbanisation is shaping its social and spatial distribution. New methodologies, such as DesInventar, need to be scaled out to inform urban risk reduction policy tailored to local needs and priorities (see Box 1).
- It is critical to address urban risk across a spectrum, encompassing everyday hazards and small disasters ('extensive risk') and large disasters ('intensive risk'). Reducing extensive and intensive risk requires coordinated approaches involving urban planning and environmental management, public health, disaster management, and climate change adaptation.
- Urban risk reduction policy is required to tackle access to safe water and sanitation, solid waste collection, safe and secure land for housing, information on risk and its reduction, inclusive decision-making processes and planning procedures, among other factors that mediate between hazard outcomes and dynamic risk governance processes.

Box 1: Key terms and definitions used by Urban ARK

Risk: The likelihood of future loss and damage. This is composed of hazard, exposure, and vulnerability.

Hazard: The potential for harm caused by a natural or human-induced event.

Exposure: The presence of people, livelihoods, environmental services and resources, infrastructure, or economic, social, or cultural assets in places that could be adversely affected.Vulnerability: The propensity or predisposition to be adversely affected.

Disaster: A situation or event which overwhelms local capacity, necessitating a request to national or international level for external assistance.

Resilience: The ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions, without preventing capacity for transformation.

hazards.[6] Many of the future challenges for risk reduction will thus be concentrated outside the largest cities, which have attracted most attention.

Secondly, mega-cities will remain important priorities for risk reduction given their strategic economic importance and the large number of people and assets they concentrate. But at present, there are only two mega-cities in sub-Saharan Africa: Lagos (Nigeria) and Kinshasa (Democratic Republic of Congo). Additionally, the largest cities are not growing especially fast.[7]

Thirdly, the urban poor are among the most at risk since they tend to live in informal settlements located in poorly serviced and hazard-prone areas.[8] Consequently, the urban poor tend to suffer disproportionately, not only from disasters, but also from biological pathogens.[9] Much more needs to be understood about the practices of communities that are working to reduce risk as part of their ongoing efforts to access secure housing and basic services.

Urban Africa: Risk Knowledge (Urban ARK)

Urban ARK is a three-year programme of research and capacity building led by 12 policy and academic organisations from across sub-Saharan Africa, with partnerships in the United Kingdom. The work is concentrated in four core cities – each presenting different development and hazard contexts: Ibadan (Nigeria), Karonga (Malawi), Nairobi (Kenya), and Niamey (Niger). Research is also being undertaken in Freetown (Sierra Leone), Dar es Salaam (Tanzania), Mombasa (Kenya), Dakar (Senegal), and Addis Ababa (Ethiopia).

The cities offer broad regional coverage, a range of city population sizes, governance challenges, and in-land and coastal locations. City-based research teams and local stakeholders – including urban planners, community groups, and businesses – take a lead in defining key gaps in data, understanding risk, building capacity, and responding.

Conceptualising risk across a spectrum

Urban ARK sets itself apart from other research projects by conceptualising risk across a spectrum, encompassing everyday, small, and large events. This is important in light of evidence showing that the cumulative impacts of what are termed 'extensive risks' – including everyday hazards (such as infectious and parasitic disease, and road traffic injuries), and small disasters (such as localised landslides and floods) – are greater than those of what are termed 'intensive risks' – including larger, less frequent disaster events (such as tropical storms, earthquakes, and floods).[10] Addressing the risk spectrum opens up opportunities to better understand:

- The relative importance of different hazards (biological, environmental, and man-made) in terms of losses and impacts.
- The specific forms that vulnerability takes among different people (such as women, infants and children, and the elderly) in relation to different hazards.
- The interactions between multiple hazards, including cascading failures.
- The underlying drivers of risk linked to poverty, poorly planned and managed urban growth, and climate change.

Bringing together policy, practice, and science partners

Urban ARK responds to three key challenges hampering efforts to integrate risk reduction into urban development processes:

1. ***A lack of detailed disaggregated data*** on the social, spatial, and temporal distribution of losses and impacts, especially for low-income and informal settlements.

2. ***A lack of systematic analysis*** of the ways in which urbanisation, urban planning and governance, and climate change is influencing existing/future risk.

3. ***Inadequate human capacity and coordination among communities***, governments (national and local), civil society, and the private sector.

Urban ARK's actions are targeted particularly at the local government level, since this is where decisions about land management, service provision, risk-reducing infrastructure and planning are often taken.

Our work is guided by four interlinked programmes (Box 3) that bring together development practitioners, epidemiologists,

Box 2: Urban ARK's four interlinked programmes of work

1. ***Vulnerability assessment***: Through deploying vulnerability and loss assessment methodologies, focus is on assessing hazards and underlying socio-economic and environmental conditions of vulnerability. In Ibadan, projects teams are working to develop the DesInventar methodology (Box 3). Other methodologies involve epidemiology, community participation, and child and gender-sensitive approaches.

2. ***Hazards assessment: Assesses*** (a) multi-hazard relationships and their impact on infrastructure networks and land use, including the production of new digitised land use maps, and (b) climate downscaling for urban planning and decision making.

3. ***Root cause analysis and historical governance trajectories***: Investigate (a) the dynamic historical processes of urbanisation and governance in sub-Saharan Africa that shape contemporary expressions of hazards, vulnerability, and risk management capacity, in response to both everyday hazards and disasters; and (b) the factors shaping the emergence and contribution of mediating or intermediate actors around urban development and risk reduction, with a focus on the governance space between local community actors and organisation of local government.

4. ***Urban development***, planning and governance: Investigate relationships between urban risk and its production and reduction through an examination of (a) current and recent investments in infrastructure, construction and planning; (b) urban planning policy and regulatory frameworks; (c) the underlying power dynamics between stakeholders that guide urban development, including organised grassroots and local governance networks, government, private sector, and others.without preventing capacity for transformation.

Box 3: Scaling-out DesInventar in sub-Saharan Africa

DesInventar is a collection of databases, which currently covers 15 countries in sub-Saharan Africa: Comoros, Djibouti, Ethiopia, Kenya, Madagascar, Mali, Mozambique, Morocco, Mauritius, Niger, Togo, Tunisia, Senegal, Sierra Leone, Seychelles, Uganda, and Tanzania (Zanzibar only). The impacts of local events are recorded in national databases, providing detailed data on losses that can be combined to provide a more accurate and detailed picture of urban risk when disaggregated to the district level. DesInventar has yet to collect data detailed enough and adequate in scope to make accurate deductions about the distribution of urban hazard impacts. Urban ARK seeks to develop this methodology to help inform urban risk reduction policy tailored to local needs and priorities.

natural hazard scientists, climatologists, disaster risk managers, sociologists, and urban planners. These programmes offer new opportunities for coordination across disciplinary boundaries.

Addressing dynamic processes and cross-cutting themes

Urban ARK focuses specifically on factors that mediate the relationship between hazard outcomes (everyday, small, and large) and dynamic processes of risk governance. These factors form entry points for risk reduction policy and include:

- Safe water and sanitation
- Solid waste management
- Safe and secure land for housing
- Public health
- Knowledge about risk and its reduction
- Social conflict, and
- Decision-making processes and planning procedures.

Several crosscutting themes are embedded in the overall programme as well:

Extensive risk can continuously erode people's health, assets and income, reducing their capacity to cope with larger-scale events, to recover, and to reduce future risk.

Gender, among other social identities (eg age, income/class, ethnicity), is significant in determining who within an urban population is most at risk.

Conflict and violence can intensify the vulnerability of particular people, but can also arise in the aftermath of a disaster, when competition over resources can aggravate community tensions.

Poverty: The many deprivations of urban poverty render those living ill-served and insecure informal settlements among the most vulnerable to biological and environmental hazards (everyday, small and large).

Co-production and impact to ensure that the knowledge generated by Urban ARK is legitimate and accessible in its conception, generation, dissemination, and application.

The role of urbanisation in transforming the risk-development nexus

Major international policy frameworks, including the New Urban Agenda, Sustainable Development Goals, and the Sendai Framework for Action, are explicit about urban resilience for sustainable development.

Urban ARK furthers these agendas through capacity building, evidence-based planning and policy making, and strengthening the sub-Saharan African policy and academic landscape for resilience. Examples of impact include:

• Linking disaster risk reduction with urban poverty reduction and development planning

• Protecting development gains from climate change and poorly planned and managed urban growth

• Addressing the proximate and root causes of risk linked to poverty, poorly planned and managed urbanisation, and limited capacity, especially at the local government, and

• Harnessing the synergies between disaster risk reduction and urban health promotion through the creation of healthier and more resilient urban living environments, especially for the urban poor.

Authors

Donald Brown – PhD Candidate, The Bartlett Development Planning Unit, University College London donaldrmbrown@gmail.com

Hayley Leck, Research Associate, Geography Department, King's College London hayley.leck@kcl.ac.uk

Mark Pelling, Professor of Geography, Geography Department, King's College London mark.pelling@kcl.ac.uk

Cassidy Johnson, Senior Lecturer, The Bartlett Development Planning Unit, University College London cassidy.johnson@ucl.ac.uk

Notes

1. UNDESA (2015) *World Urbanization Prospects*, 2014 Revision. New York: United Nations.

2. Adelekan I, Johnson, C, Manda, M, Matyas, D, Mberu, BU, Parnell, S, Pelling, M, Satterthwaite, D and Vivekananda, J (2015) Disaster risk and its reduction: an agenda for urban Africa. *IDPR*, 37(1): 33-43.

3. Osuteye, E, Johnson, C and Brown, D (2016) The data gap: An analysis of data availability on disaster losses in African Cities. *Urban ARK Background Paper* No. 11.

4. Pelling, M and Wisner, B (2009) *Disaster Risk Reduction: Cases from Urban Africa*. London: Earthscan.

5. Satterthwaite, D (2016) Small and intermediate urban centres in sub-Saharan Africa. *Urban ARK Working Paper* No. 6. Prepared for the international research project on Urban Africa Risk Knowledge (UrbanARK), London.

6. Wisner, B, Pelling, M, Mascarenhas, A, Holloway, A, Ndong, B, Faye, P, Ribot, J and Simon, D (2015) Small Cities and Towns in Africa: Insights into Adaptation Challenges and Potentials. In: Pauleit, S, Coly, A, Fohlmeister, S, Gasparini, P, Jørgensen, G, Kabisch, S, Kombe, WJ, Lindley, S, Simonis, I and Yeshitela, K (eds) *Urban Vulnerability and Climate Change in Africa. A Multidisciplinary Approach*. London and New York: Springer.

7. McGranahan, G and Satterthwaite, D (2014) Urbanisation concepts and trends. *Human Settlements Working Paper*, June 2014. London: IIED.

8. Dodman, D, Brown, D, Francis, K, Hardoy, J, Johnson, C and Satterthwaite, D (2013) Understanding the nature and scale of urban risk in low- and middle-income countries and its implications for humanitarian preparedness, planning and response. Human Settlements Discussion Paper Series, *Climate Change and Cities* 4. London: IIED.

9. Hardoy, JE, Mitlin, D and Satterthwaite, D (2001) *Environmental Problems in an Urbanizing World*, London: Earthscan.

10. UNISDR (2009) *Risk and Poverty in a Changing Climate: The 2009 Global Assessment Report on Disaster Risk Reduction*. UNISDR: Geneva.

Urban Africa Risk Knowledge

www.urbanark.org

Urban Africa: Risk Knowledge (Urban ARK) breaking cycles of risk accumulation in sub-Saharan Africa

A three-year programme of research and capacity building that seeks to open up an applied research and policy agenda for risk management in urban sub-Saharan Africa. Urban ARK is led by 12 policy and academic organisations* from across sub-Saharan Africa with international partnerships in the United Kingdom.

* Abdou Moumouni University; African Population and Health Research Centre; Arup; International Alert; International Institute for Environment and Development; King's College London; Mzuzu University; Save the Children; UN-Habitat; University of Cape Town; University College London; University of Ibadan

Contact: Mark Pelling
mark.pelling@kcl.ac.uk

E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL

UKaid from the British people

Urban ARK is funded by the Economic and Social Research Council (ESRC) and the UK Department for International Development (DFID) Humanitarian Innovation and Evidence Programme.