Urban Africa Risk Knowledge

Briefing

No. 22 January 2019

Keywords

Urban dynamics, extensive and intensive risks, risk drivers, vulnerability, exposure, risk data

Filling the data gaps on every day and disaster risks in cities: the case of Ibadan

Many cities in sub-Saharan Africa lack official records of deaths and of serious illnesses and injuries from everyday hazards and disaster events at all scales. This is a major limitation to effective planning for risk reduction. This briefing describes how a research team at the University of Ibadan drew on a range of data sources to fill in some glaring official data gaps, including newspaper reports, hospital records and databases of government departments for the period 2000 to 2015. Excluding public health risks for which data are scarce and incomplete, road traffic accidents, crime, violence and flooding constitute the most serious hazards in the city.

City governments should be drivers of risk reduction as they meet their responsibilities for ensuring infrastructure and service provision – including water, sanitation, drainage, solid waste collection, electricity, healthcare and emergency services, as well as for needed investments in disaster risk reduction. They also need to build climate change adaptation into city plans and investments. Effective action depends on good data on health influences and outcomes for each locality. However city governments that lack the funding and capacity to meet these responsibilities become drivers of risk and risk accumulation as deficits in infrastructure and services increase and the populations of informal settlements grow.

Ibadan is an important city – it is a state capital, one of the largest cities in Nigeria, housing one of the best-known universities in Africa, and has a long history predating colonial rule. But its responsibilities are very far from its capacities. Poor urban planning, poor development control and weak building code regulation and enforcement have increased the vulnerability of large sections of the city's inhabitants to various risks, including floods, road traffic accidents, building collapse and fire hazards, as well as crime and violence. The funds available to address such issues are far below what is needed, and the actual allocations for healthcare and social services have been declining. It is common for government employees not to be paid. It is also difficult to get city-wide planning and action because the city is divided into five autonomous local authorities within the municipal government and six local governments in the suburban areas around the city.

Provision for infrastructure and services

Lack of, or inadequate, access to basic services (healthcare, public transport, and emergency services) and infrastructure (roads, drainage and water supply) directly affects everyday hazards and disaster risks in Ibadan. Inadequate sanitation and poor access to safe water supply increase health risks, in particular diarrhoea, typhoid and cholera. Lack of drainage exacerbates flooding, while lack of roads hinders evacuation and access by fire services when flood and fire disasters occur.

Policy Pointers

- Many city governments in sub-Saharan Africa have little knowledge of the health problems impacting their residents – especially those in informal settlements, which usually house a third or more of their population.
- There is a need to improve or rehabilitate official data sources on health risks, such as vital registration that records all deaths and their causes, and census data on housing conditions made available to local governments down to the level of the street, ward and district.
- In the absence of such data, there is a range of methods to help fill this data gap and promote more effective policies – as illustrated in this briefing.
- National governments and international agencies need to do far more to increase funding and capacity to allow city governments to meet their responsibilities of reducing health risks; Ibadan gives a dramatic example of the inadequacy of public finance as its local governments struggle to govern a city of over three million inhabitants.

"Only in the last decade have government records been stored in electronic form. Many records can still only be obtained from registers with manually entered data; and consulting these is very time consuming. In addition, the problem of missing data is commonly associated with records kept only in hard copies."

The sprawling nature of the city's growth also makes the provision of adequate urban infrastructure and basic social services more expensive.

The development of Ibadan as an urban settlement before the introduction of motorised vehicles has influenced the layout and quality of the road network in the central area and, to some extent, in the newer informal settlements. Most roads are barely more than footpaths, and many buildings are not accessible by motorised vehicles. Many of the newer areas have poor road networks, with mainly untarred roads in a bad state of repair, and residents face long walks to the nearest arterial road and bus services.

Urban expansion and population growth have exacerbated the water supply situation – three quarters of Ibadan's population lacks access to the municipal water supply, and there are no sewers for sanitation. In the newer suburban areas, municipal water supply is virtually non-existent and many residents depend on groundwater from wells, boreholes, and other water sources for drinking and household use. Many wells in these communities are highly polluted due to their proximity to pit latrines and solid waste dumps, unsanitary practices, and flood overflow. About 70 per cent of solid waste generated within the metropolis is not properly disposed of and managed; most is dumped into drainage channels, unapproved dump sites and wetlands. An estimated 70 waste collection trucks currently function – at least 500 are needed to properly cater for the city.

Lack of data on risk

Ibadan, in common with most sub-Saharan African cities, lacks systematic and comprehensive records of the impact of everyday hazards and disaster events at all scales and magnitudes. City-wide systems for official recording of deaths – and by association their causes – are incomplete and very inadequate. To a large extent, only deaths that occur in public/private hospitals and health facilities, or which have involved the police, are adequately recorded. Deaths due to other causes or occurring in the home are rarely registered.

Censuses should provide valuable data on housing and living conditions and other health determinants on all households. Most census authorities do not provide city governments with data broken down to the level of the street and ward – needed for planning. National governments tend to draw heavily on national sample surveys (including demographic and health surveys), but these have sample sizes too small to provide relevant data for cities or – more importantly – for informal settlements.

There are also challenges when drawing on existing local data. Only in the last decade have government records been stored in electronic form. Many records can still only be obtained from registers with manually entered data; and consulting these is very time consuming. In addition, the problem of missing data is commonly associated with records kept only in hard copies. There is also a lack of consistency in how data are entered and stored over time and from one department to another. The quality of data stored is largely dependent on the knowledge and training received by the data entry staff, the capacity of persons in charge of data management, and the resources available to each department/ministry/agency. Variations in these affect the completeness, detail, and reliability of data.

Government agencies seldom keep reports and data on deaths and losses arising from everyday hazards and disaster events at scales lower than the state level. It is only major disaster events which attract attention that have some record of impacts, but usually only at the city level. For example, a gross number for deaths resulting from the major flood disasters in Ibadan in 1980 and 2011 were recorded without reference to the number of deaths from floods in different areas of the city. In most cases little attempt, if any, is taken to record other risk-related data at the scale lower than the local government area. Yet risk assessments are needed for each ward to understand their particular risks and who is most affected.

Information on risk drawn from a systematic review of reports in a newspaper can provide valuable data, as outlined below; however this is not exhaustive in terms of coverage and detail. With the exception of hospital records, where information on age, gender, occupation and residential addresses are available for patients, detailed socio-demographic data for the majority of victims or persons affected by everyday hazards and disasters in the city are rarely recorded. This makes identifying and acting to support vulnerable groups particularly difficult.

Drawing on new data sources

The first new source of data came from a review of all editions of the *Nigerian Tribune* newspaper published between 2000 and 2015. This systematic collection of data covered the whole spectrum of risks, including disasters and everyday hazards that resulted in illness, injury and premature death, as well as property and economic losses.

Other sources included hospital records, Ministry of Health records, and data from other government departments and agencies. For every hazard/ disaster event or health risk documented, the following information was elicited where available: (i) date of the hazard or disaster event; (ii) incident location or residential address of patients in the case of hospital records; and (iii) number of deaths – ie people who died due to direct causes immediately or sometime after the disaster event. Other information was gathered on the number of people injured or otherwise affected (including loss of property), and the number of damaged or destroyed houses.

What the data show about everyday hazards and disaster risks in Ibadan

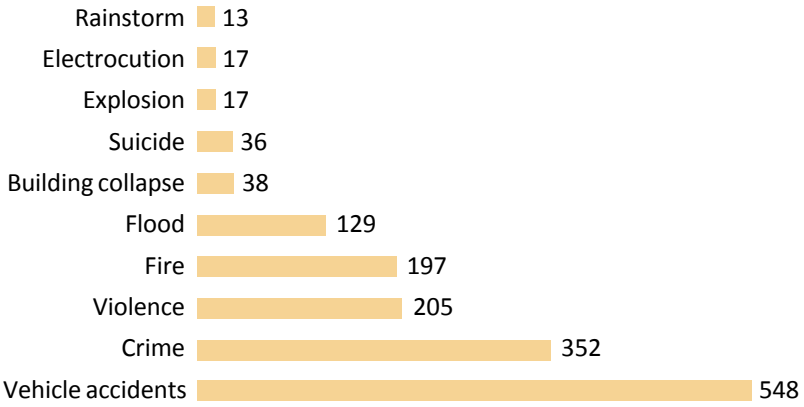
The analysis of reports in the daily newspaper showed that city residents are exposed to many different risks. Figure 1 shows numbers of reported deaths by risk type, with road traffic accidents accounting for the largest number of premature deaths over the 15-year period. Statistics sourced from the Federal Road Safety Corps also show high numbers of fatalities and injuries from road accidents since 2009 – a leading cause of premature death and injury in Ibadan.

Crime and violence also account for high numbers of deaths. A range of factors contribute to this risk, including governance failures, very poor quality and overcrowded housing, inability to absorb surplus low-skill labour, under- and unemployment, inequalities in provision of services, income inequality, local grievances, and failures of cultural integration – all of which are readily observed in Ibadan. At different times since 1992, mass violent demonstrations and the destruction of property have taken place in the city in response to attempts by the government to increase the price of petrol and allied products. Election processes have also been a source of conflict and violence, often resulting in injury and loss of lives and property.

Deaths from fire are largely due to inadequacies in the emergency services, with a large proportion of low-income groups in housing with no road access, as noted earlier

129 deaths were recorded for floods. Ibadan faces changes in the frequency and intensity of extreme weather events to which climate change and local

Figure 1: The ten most common causes of death in Ibadan reported in the *Nigerian Tribune* newspaper (2000-2015)



environmental change contribute, and which have profound impacts on the urban poor and other vulnerable groups. While the numbers of injured and premature deaths from these climate-related hazards do not compare with those recorded for road traffic accidents, violence and crime, the impacts in terms of damage and destruction of public buildings, physical infrastructure and property are significant. Most of the localities experiencing serious impacts from the effects of rainstorms and windstorms are in the inner city and in the newer eastern suburbs, which have the housing characteristics of the inner city.

Weather-related impacts are under-reported. For instance, in February 2009, the Oyo State Emergency Management Agency recorded that a major rainstorm event had damaged or destroyed not less than 269 buildings in different localities in the inner city and eastern suburbs. The risk was largely due to the old, poorly maintained or poorly constructed buildings in these locations. This event was not reported in the *Tribune*. In February 2013, about 1,000 residential, religious and commercial buildings and schools, as well as urban infrastructure, were damaged or destroyed by a strong wind of 72 knots which accompanied the first rainfall of the year.

One key question is why infectious and parasitic diseases appear to contribute so little to reported deaths; only cholera is listed in Figure 1, with just four deaths in 15 years. No deaths were reported for diarrhoea, malaria, tuberculosis, typhoid, malnutrition or pneumonia. This is because most deaths (and most premature deaths) are not reported in newspapers. Records of premature

"The analysis of reports in the daily newspaper showed that city residents are exposed to many different risks."

deaths from the University College Hospital, Ibadan from 2000 to 2013 showed diarrhoea (124 deaths), meningitis (57 deaths) and typhoid fever (33 deaths) to be important causes. During the same period, 133 cases of deaths from tuberculosis were recorded at the Government Chest Hospital, Ibadan. Deaths from tuberculosis have reduced over this 14-year period because of improved health services for treatment of tuberculosis in the city, provided by international agencies.

However, given the inadequacies in water and sanitation provision, there is a high prevalence of water-borne diseases, particularly typhoid, dysentery, cholera and diarrhoea, especially among the urban poor. Cholera outbreaks are common; 1,872 cases were recorded in 2004, and 1,769 in 2006. In 2011, 537 cases were recorded following the August 2011 floods, which claimed four lives.

Conclusions

The risk landscape of African cities is influenced by many factors. Most are linked to the quality of housing, infrastructure and services across all neighbourhoods, which in turn is linked to the competence and capacity of local governments. But many risk factors come from beyond the city boundaries – these include macro-economic conditions, politics and policy decisions at the national and state levels, and to some extent the international development agenda.

Although the pattern of city growth and uncontrolled urban development are driving urban risks, the qualities of the city's operating systems in terms of institutional capacities, governance at different scales and, by extension, public financing for urban infrastructure and social services are significant determinants of the nature and scale of risks. While the sprawling nature of Ibadan city growth demands increasing financing for investments in physical infrastructures and basic social services, changing macro-economic conditions and poor financial management by successive state and local governments are serious limitations to robust city governance and environmental management.

Poor urban planning and the failure of local authorities to manage urban development and expansion have resulted in an increased proportion of informal settlements in the newer areas of the city with inadequate physical infrastructure and lack of/poor social services. Governance limitations may also account for the fact that there is no vital registration system recording all deaths and their causes, nor a systematic use of hospital and health clinic records available for monitoring illnesses and injuries city wide and within each settlement.

Ibadan is one of many large cities in sub-Saharan Africa lacking city-wide data on the full spectrum of risks facing their populations. This is much needed to inform risk-sensitive development and disaster risk reduction. With public health risks being under-reported, this briefing has drawn on other sources to build a city-wide picture of the most serious risks facing the population and who is most affected. If there was complete data on premature deaths and their causes, it is likely that diarrhoeal diseases, TB and typhoid would be added to the list in figure 1 as among the most common causes of death.

In order to meet the targets of the New Urban Agenda and achieve safe communities and sustainable cities, deliberate and systematic action planning for risk reduction, including measures for reducing vulnerabilities to urban risks, need to be integrated into short- and long-term city development plans with clearly-defined goals for investment and financing.

Authors

Ibidun O. Adelekan, Department of Geography, University of Ibadan, Nigeria
David Satterthwaite (David.satterthwaite@iied.org), Human Settlements Group, International Institute for Environment and Development (IIED), London

About this Brief

This briefing draws on Adelekan, IO (2018) Urban Dynamics and Everyday Hazards and Disaster Risks in Ibadan, Nigeria, Urban Ark Working Paper, available at www.urbanark.org/urban-dynamics-and-everyday-hazards-and-disaster-risks-ibadan-nigeria A paper focusing on the methodologies used for data collection and analysis will be published in *Environment and Urbanization* in 2019: Adelekan, IO (2019) Filling the data gaps on every day and disaster risks in cities; the case of Ibadan, *Environment and Urbanization*, forthcoming. Another paper of interest is Adelekan, Ibidun O (2012) Vulnerability to wind hazards in the traditional city of Ibadan, Nigeria, *Environment and Urbanization*, 24, No. 2, pp. 597-618.

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; University of Portsmouth

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

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.

The views expressed do not necessarily reflect those of the donors.