

## **SOME KEY POINTS IN REGARD TO DISASTER RISK REDUCTION IN URBAN AREAS OF AFRICA**

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**Urbanization<sup>1</sup> is one important aspect of stronger, more diversified economies.** Urbanization in Africa should not be seen as ‘a problem’; it is generally associated with growing and diversifying national economies. If rapid urbanization is occurring (and in much of Africa it is not),<sup>2</sup> people are moving to urban centres for good reasons; most migration flows are rational responses to changing patterns of economic opportunity. The ‘problem’ of high levels of risk in most African urban centres is not a characteristic of urbanization but a characteristic of poor governance.

**Urbanization is now driven primarily by economic factors - the concentration of profit-seeking enterprises in particular urban areas.<sup>3</sup>** Political factors have had great influence on urban trends in all African nations, especially after they achieved political independence (and in many, apartheid like controls on the population’s right to live and work in urban areas was removed). But this influence is now much diminished in most nations. In some nations, war/civil strife still has a powerful influence on urban trends.

**A large and growing proportion of Africa’s population lives in urban centres.** More than 350 million people in Africa live in urban centres – some two fifths of the population. Only a very small proportion live in ‘mega-cities’.<sup>4</sup> Most live in relatively small urban centres.

**The form that each urban centre takes (and thus the form of the risks generated for its population) is heavily influenced by social and political factors.** Each nation in Africa has its own particular spatial distribution of urban population, conditioned by its political structure, economic changes, natural resource distribution, scale and nature of its exports, colonial legacy regarding institutions and transport infrastructure.....

**Urban contexts can create or greatly increase risk; they also provide opportunities to greatly reduce risk.** Urbanization in Africa generally creates or exacerbates risks because it concentrates people, enterprises, motor vehicles (and their wastes) in space – and often on hazardous sites (for instance sites at risk from floods or earthquakes) – without the measures taken that can reduce risks. So it increases risks to urban populations from infectious and parasitic diseases, chemical pollutants and physical hazards. Urban contexts also provide many potential opportunities to reduce risk – and well-governed cities have

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<sup>1</sup> Urbanization defined as the increasing concentration of a national population in urban centres.

<sup>2</sup> Official United Nations statistics may seem to contradict this – but this is largely because the results from the most recent round of censuses have not been incorporated into these statistics or no census data are available (some African nations have had no census in recent years). Africa is certainly less urbanized and less dominated by large cities than had been widely predicted – see Satterthwaite, David (2005), *The Scale of Urban Change Worldwide 1950-2000 and its Underpinnings*, Human Settlements Discussion Paper, IIED, London, 43 pages; also Bryceson, Deborah F and Deborah Potts (editors) (2006), *African Urban Economies: Viability, Vitality or Vexation?*, Palgrave Macmillan, Basingstoke and New York, 353 pages.

<sup>3</sup> Note that this applies to urbanization (the increasing proportion of the population in urban areas) not to changes in the urban population (which is also much influenced by demographic factors)

<sup>4</sup> Mega-cities are generally taken to be urban centres with 10 million plus inhabitants. If this definition is used, by 2000, Africa had only one mega-city: Cairo. The lack of a recent census in Nigeria has led to some people speculating that Lagos had more than 10 million inhabitants by 2000 – but this is not certain. Lagos had 5.2 million inhabitants in the 1991 census and its growth since then will have been checked by it no longer being the federal capital and by Nigeria’s poor economic performance. No other African city is close to having 10 million inhabitants. In 2000, three fifths of Africa’s urban population lived in urban centres with less than half a million inhabitants.

shown how it is possible to enormously reduce most life- and health-threatening (disaster and non-disaster) risks.<sup>5</sup>

**Key characteristics of most African cities:**

- high proportion of the population living in poor quality and overcrowded housing in informal settlements and working in the informal economy
- many informal settlements on hazardous sites (eg at risk from floods, landslides, earthquakes, fires.....)
- risk-levels much increased by the lack of infrastructure and services in many residential areas
- local governments that are ineffective in taking the measures that can reduce risks

**When illness, injury, premature death or loss of property occurs, these can be classified with a continuum from ‘everyday’ events to ‘small’ and ‘large’ disasters, depending on the scale of the loss.** Disaster specialists generally focus on only a small part of this continuum, ignoring non-disaster events (and often small disasters). This means that they do not see the links between these non-disaster events and disasters and the risk accumulation processes that are common in urban areas that usually increase disaster and non-disaster risks of illness/injury/premature death/loss of property.<sup>6</sup> Urban specialists often focus on non-disaster risk – which in most of urban Africa contributes far more to health burdens and to poverty than disasters. But this means that they miss the potential links between risk reduction for everyday hazards and small and large disasters.

**The many ways in which urban development can increase people’s vulnerability to disasters (i.e. the potential to be killed, injured or otherwise negatively affected):**

- Cities expanding onto sites at risk from floods, landslides, earthquakes (so not so much the whole city at risk but particular groups)
- Cities as concentrations of activities with disaster potential - industrial accidents, transport accidents, fires, epidemics.....(particular groups most at risk)
- Patterns of urban form and buildings that increase scales and levels of risk from floods, landslides, earthquakes, fires, transport accidents, industrial accidents.....(particular groups at risk)
- The role of ‘bad’ or ‘weak and under-resourced’ local governments in causing or exacerbating risks from floods, landslides, earthquakes, fires, transport accidents, industrial accidents
- Changes in the region around cities which cause or exacerbate risks from floods (e.g. poor watershed management – often a particular problem for city governments as the watershed lies outside their jurisdiction)
- Disaster risks from sudden movement of people to a city (in response to war, famine.....)
- Whole cities at risk because they are on sites at risk from floods, landslides, earthquakes....

**To understand how to reduce urban risk needs an understanding of how it is constructed and amplified and by what – and by whom, by their actions or omissions. Also, who within urban areas are most at risk (and who is not). In most urban centres, it is particular groups (usually**

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<sup>5</sup> Urbanization is so often described very inaccurately in terms of ‘exploding’ and ‘mushrooming’ cities (when most urban centres are not growing rapidly and there are few new cities) as if it was ‘bad’ for development and should somehow be prevented.

<sup>6</sup> Risk accumulation processes often mean an increase in:

- scale/intensity of the hazard (e.g. for a flood, the scale of it and/or the speed with which it arises)
- the frequency of the hazard (for instance for a flood how often it takes place)
- the number of people at risk (for instance who will be affected by the flood); this can also be termed the size of the vulnerable population
- the size of the risk to which these people are exposed which can also be termed the scale of their vulnerability (for instance do the floods cause severe nuisance and some property damage or are they life-threatening and asset and livelihood destroying)

**those with low-incomes) that are most at risk; in many urban centres, the more powerful economic or political interests not only avoid risk but may contribute to risks for other groups.<sup>7</sup>**

**One key role of the state is to ensure that this concentration of people, enterprises and wastes takes place while avoiding risks.** Urban centres have many potential advantages for doing so – economies of proximity and scale for most of the risk-reducing infrastructure and services (good provision for water, sanitation, drainage, solid waste collection, health care, emergency services, disaster preparedness....) and political circumstances that should allow those who are most at risk more voice and influence within government.

**Urban governments should be in the risk reduction business. All urban disasters can be seen as a result of inadequate urban governance?**

Urban governments should have key role as risk reducers as:

- providers of infrastructure and services (perhaps some contracted to private enterprises);
- guiders of where development takes place – for instance influencing where urban settlements develop and where they do not and what provision they have to avoid floods and fires, have buildings and layouts that decrease risks from earthquakes.....
- regulator of hazardous activities that can produce disasters (industries, transport accidents....)
- influencer on land availability (land use regulations, zoning, bureaucratic procedures....for buying or obtaining land and what can be built on it; the quality of land use management influences the proportion of poorer groups having to live on hazardous/disaster prone sites)
- encourager/supporter of household/community action that reduces risk (for instance better quality housing, safer sites, good infrastructure...)
- provider of ‘law and order’ which should also act to protect poor from risk

**The history of democratic urban governance is largely around the reduction of risks – pushed by social, political and economic factors.** A key justification for local government (and the larger state system of which it is part) is the reduction of risk (and political structures that allow influence to those who are most at risk).

**What pushes risk reduction in cities?**

- Democratic structures and effective governance systems for the city to protect ‘the public interest’ and individual civil and political rights
- Funding for infrastructure and services – which usually depends on a successful economy
- Individual/household wealth (which allows choices of less risky homes-neighbourhoods and livelihoods)

**Why are most African cities so risky? (as shown by the scale of injuries and deaths from disasters and low life expectancies and ‘preventable diseases and injuries’ having such a dominant influence on low life expectancies).** Lack of the factors noted above (democracy, competent local governance, funds for infrastructure, households with purchasing power to avoid risk). Failure of the state in Africa to support competent, effective, accountable ‘risk reducing local governments’. (Obvious range of reasons – colonial legacy/unstable political systems, lack of economic growth, lack of capacity, ineffective/inappropriate aid.....).

**Extreme inequalities in the distribution of income, assets and ‘voice’ within any city’s population influences who is at risk and scale and nature of their vulnerability.<sup>8</sup>** Poor groups generally far more at risk than rich groups – both because they face higher risks and have less possibility of risk-avoidance

<sup>7</sup> There are important political economy issues here around the powerful economic interests who benefit from urbanization (for instance the concentration of labour, access to services and other enterprises, access to infrastructure) but who avoid most or all the risks (including disaster risks) and who may create/exacerbate risks for other groups.

<sup>8</sup> There is a need here to incorporate vulnerability related to: social, economic and political factors (eg rising prices, falling real incomes.....); environmental health hazards (infectious and parasitic diseases, pollutants, physical hazards); and disasters - and their interconnections

and of coping capacity. Infants, young children and the elderly often most at risk. Poorer groups also more vulnerable because of limited powers to make demands on governments and limited resources to take action to reduce risk themselves (individual and collective action).

**With weak, ineffective or predatory local governments, huge importance of what low-income groups can do individually or collectively to reduce risk – and to help build government systems that are less weak, ineffective or predatory.** Huge influence here of what local government permits low-income groups to do – especially in regard to the access to land for housing (need for good location in relation to income-earning opportunities and non-risky sites).

**All organizations concerned with disasters should be in the risk reduction business** – and to recognize the need to get involved in risk reduction in urban areas. This means understanding and acting to reduce the risk-creating processes in urban areas (much of it linked to weak, ineffective or predatory local government) and working with all groups that are in the risk-reducing business (including low-income groups and their own organizations).<sup>9</sup> This also means integrating an understanding of ‘disaster’ risk and disaster-risk accumulation processes within an understanding of all risks to life, health and property in an urban context. Similarly, urban specialists who focus on non-disaster issues must recognize that disasters are within their sphere of interest, not unusual events created by ‘natural’ forces.

**Understanding risk accumulation (and reduction) processes needs strong local knowledge. Risk has to be assessed locally because it is the relationship between particular groups of people and hazards in their living and working environment. Local factors influence the scale of the risks, their distribution within the population, who is most vulnerable AND who are key actors that can contribute to risk reduction.** AURAN is responding to the need to create locally owned processes of risk identification and reduction – which then serve to encourage other locally owned processes.

The scale and nature of urban change varies enormously from place to place and usually within any one place over time. There is a need for a strong local understanding of the nature of deprivation, the large (and often increasing) social heterogeneity among ‘the urban poor’; and the complexity of processes that underlie poverty in each location (with their mixture of common elements and elements that are shaped by very particular local contexts and circumstances - land markets, the economic changes that influence income distribution, the competence/capacity/accountability of government institutions, the capacity and willingness of community-organizations to act, the geo-physical context..... )

#### **Examples of risk accumulation processes**

- Increasing proportions of a city’s population and economic base on sites at risk (floods, landslides, earthquakes and hazardous industries)
- Increasing risks on sites occupied as a result of human action – eg no measures to keep down the risk of landslides on a slope - (often exacerbated by constraints on building or improvement as a result of illegal land tenure and large scale landlordism)
- Increasing numbers of people at risk on already occupied site ( for instance, increasing densities, increasing informal economic activities, concentration of a vulnerable/susceptible population, high cost of retrofit for buildings once built)
- Changes elsewhere increasing risk (eg upstream developments affecting scale and speed of surface water run off)
- Everyday hazards and small disasters (and poverty in general) eroding capacity of individuals/households/districts to invest in disaster avoidance (eg built better houses, move to safer sites) and cope with the impact of disasters when they happen

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<sup>9</sup> Disaster specialists need a better understanding of urban change, including the mechanisms by which powerful economic and political interests profit from urban development while managing to avoid most risks, including disaster risks; the underlying cause of urbanization – the increased returns that accrue to private enterprises from locating in urban areas because of concentrations of production (producing economies of scale, agglomeration and proximity), concentrations of demand (so more profitable markets), a cheap, diverse labour pool and the availability of infrastructure (for which there are also economies of scale and proximity).

- Growing concentrations of people/homes/workplaces/infrastructure in cities, creating large impermeable surfaces that are also difficult to manage/govern - eg many local governments working without coordination and cities outgrowing what was originally a relatively safe site. Large concentrations of people also make it difficult to flee/move rapidly to safer sites. The risks are exacerbated by a lack of knowledge of what to do when disaster occurs and of early warning systems. In most cities in Africa, serious problems with solid waste because of deficiencies in waste collection services – and this impedes drainage as well as constituting a serious environmental health risk.
- Disaster organizations/civil defence not seeing their role as being to identify and reduce risk accumulation processes associated with urbanization while urban planning specialists and local government fails to see disasters as their responsibility
- Rapid growth in the number of motor vehicles (including people's reliance on buses and minibuses) within city-wide road systems and public transport systems that are poorly managed which generally means a growing number of road-traffic accidents, including many that are sufficiently large to be classified as 'disasters' or small disasters.
- The incapacity of city and municipal government agencies to actually address the conventional functions of local government in terms of urban planning and management and provision of infrastructure and services.

**The direct and indirect impacts of climate change will increase many risks in many African urban areas** – especially from the increased intensity and frequency of extreme weather events (and the lack of local capacity to cope with this) and changing rainfall regimes (and its influence on freshwater supplies and floods). Many cities are below mountains or close enough to mountains to be at risk from the large volumes of storm runoff flowing onto the flatlands below. Urban concentrations close to coasts may be affected by sea level changes, shoreline erosion, and river and coastal flooding. Rising sea levels and increased scale and frequency of floods will also bring disruption to sewers and drains and may undermine buildings and increase the risk of seawater intrusion into freshwater aquifers. Climate change or the extreme weather events associated with it may seriously damage or disrupt agricultural production in many regions, helping to encourage a movement to urban centres. (What are often termed environmental refugees although this is a misleading term in that it is often economic and political choices that caused the problem. They should be called 'bad governance' refugees).

Africa has been highlighted as the continent likely to have the greatest adverse impacts of climate change. The adaptive capacity of human systems is low, and coastal settlements in the Gulf of Guinea, Senegal, Gambia, Egypt, and along the East-Southern African coast are particularly susceptible to adverse impacts such as inundation and coastal erosion from sea-level rises. Many African nations have among the world's highest proportion of their urban population in low-elevation coastal zones. Africa relies heavily on rain-fed agriculture making it susceptible to droughts, floods and the predicted increases in desertification. Major rivers are highly sensitive to climate variation and average runoff and water availability will decrease in many parts of Africa. The ranges of infectious disease vectors will also be extended, thus adversely affecting human health.

**BIG ISSUE: What local processes allow the most appropriate trade-offs between risks and opportunities that are not 'anti-poor.'** All cities have trade offs between risks and opportunities; cities would be 'safer' without any industries, informal settlements and motor vehicles. Many measures "to reduce risks" can bring disastrous consequences for low-income groups – eg bulldozing their settlements, outlawing the means by which they obtain their livelihoods (because these contravene occupational health and safety) and making illegal the services on which they rely (for instance banning water vendors).

#### **WHAT AURAN IS DOING**

- Identifying disaster risk accumulation processes linked to urbanization and ways to reduce these that are not anti-poor
- Locating the understanding of disaster risk in urban areas within the continuum of risk from everyday hazards to disasters and the linkages between them
- Identifying the main constraints to disaster risk reduction in urban areas

- Initiating disaster risk reduction initiatives in each city and developing set of tools that can be applied in other cities and in vulnerable neighbourhoods to identifying and acting on disaster risk reduction (including the identification of indicators of risk accumulation processes that may warn of potential disasters)
- Generate a greater interest in this topic around Africa

**What the city studies must identify:**

- Links between urban growth and risks (from disasters, small disasters, everyday hazards)
- Potential of local governments to reduce risk – disaster preparedness and disaster risk reduction. Understand multi hazards; multi vulnerability, multiple risk, complex interactions. Generate an interest among disaster specialists in risk accumulation and risk reduction.

Risk has to be assessed locally because it is the relationship between particular groups of people and hazards in their living and working environment. **So research to create locally owned processes of risk identification and reduction – which then serve to encourage other locally owned processes.**