Urban Africa Risk Knowledge Programme: Key Terms and Definitions

Working Paper – input to background Working Paper series

March 2016

Mark Pelling and Hayley Leck
King's College London

Urban ARK – Key terms and definitions

Guidance notes

Risk: Risk is comprised of three core elements which interact to generate impacts: hazard, exposure and vulnerability (IPCC SREX, 2012). Therefore, risk is an accumulation of vulnerability and hazard exposure. Risk reduction activities interject this process of accumulation and can reverse trajectories by acting on social/institutional and physical/infrastructural systems (Adelekan et al, 2015). Importantly, patterns of exposure to risk and vulnerability to hazards in urban sub-Saharan African should be understood in the wider context of global trends and experience with the hazardousness of increasingly complex urban areas (Adelekan et al, 2015; Pelling and Wisner, 2009). Risk is unequally distributed both socially and spatially (IPCC, 2014).

Risk accumulation: the "gradual build-up of disaster risk in specific locations, often due to a combination of processes, some persistent and/or gradual, others more erratic, often in a combination of exacerbation of inequality, marginalization, and disaster risk over time" (Cardona et al, 2012: 95).

Extensive and intensive risk:

Extensive risk: risk of premature death, injury/illness and impoverishment from all events whose impact is too small to be classified as major disasters. The United Nations Office for Disaster Risk Reduction (ISDR) refers to extensive risk as "the risk layer of high-frequency, low-severity losses" that "manifests as large numbers of recurrent, small-scale, low severity disasters which are mainly associated with flash floods, landslides, urban flooding, storms, fires and other localized events" (United Nations, 2015: 90).

Intensive risk: The risk from major disasters with the potential for 25 or more deaths and/or 600 or more houses destroyed or seriously damaged in one municipality/local government area (United Nations, 2015).

Boundaries between scales of loss and risk (from Satterthwaite et al, 2016: Extensive Risk Thematic Note)

These are not yet fixed and Urban ARK will be working to explore how these boundaries operate in terms of policy and impacts of environmental hazard. Past work has proposed boundaries but these have not been based on an evidence base.

For example, the following has been proposed:

	Deaths		Houses destroyed
Large disasters (intensive risk)	30 or more	OR	600 or more
Small disasters (extensive risk)	Between 1 and 29		Between 1 and 599
Everyday loss (extensive risk)	1 to 9		1 to 99

This means for an event to be classified as a disaster, it must lead to either at least one attributable mortality or one attributable house destruction. Such losses infer a systems collapse – the definition of a disaster. Extensive risk can lead to these impacts (small disasters) but can also produce everyday loss – no direct systems failure but rather an erosion of capacity.

(UNISDR, 2009; 2011; 2013 and Satterthwaite et al, 2016)

Public Health: **"**Public health refers to all organized measures (whether public or private) to prevent disease, promote health, and prolong life among the population as a whole. Its activities aim to provide conditions in which people can be healthy and focus on entire populations, not on individual patients or diseases. Thus, public health is concerned with the total system and not only the eradication of a particular disease" (WHO, 2015a).

Environmental health: "addresses all the physical, chemical, and biological factors external to a person, and all the related factors impacting behaviours. It encompasses the assessment and control of those environmental factors that can potentially affect health. It is targeted towards preventing disease and creating health-supportive environments. This definition excludes behaviour not related to environment, as well as behaviour related to the social and cultural environment, and genetics" (WHO, 2015b).

Public health and environmental health are strongly interconnected: "environmental risk and health transitions depend on urban public health measures that require political as well as economic reforms" (McGranahan, 2007: 7).

Disasters: A situation or event, which overwhelms local capacity, necessitating a request to national or international level for external assistance: "Severe alterations in the normal functioning of a community or a society due to hazardous physical events interacting with vulnerable social conditions, leading to widespread adverse human, material, economic, or environmental effects that require immediate emergency response to satisfy critical human needs and that may require external support for recovery" (IPCC SREX, 2012: 5).
Disasters can be further defined as "un-natural' events that are (re)produced and intensified by the process of risk accumulation and its underlying economic (e.g. growing urban

poverty), social (e.g. socio-spatial fragmentation), political (e.g. limited democratisation/decentralisation), institutional (e.g. limited capacity) and fiscal (e.g. lack of investments in urban development in at-risk areas) dimensions" (Adelekan et al, 2015: 35).

To be entered into the EM-DAT database, at least one of the following criteria has to be fulfilled: 10 or more people reported killed; 100 people reported affected; a call for international assistance; and/or declaration of a state of emergency (CRED EM-DAT).

Disaster risk 'Disaster risk is the likelihood over a specified time period of severe alterations in the normal functioning of a community or a society due to hazardous physical events interacting with vulnerable social conditions, leading to widespread adverse human, material, economic, or environmental effects that require immediate emergency response to satisfy critical human needs and that may require external support for recovery' (IPCC, 2012 & 2014).

Hazard: 'The potential occurrence of a natural or human-induced physical event that may cause loss of life, injury, or other health impacts, as well as damage and loss to property, infrastructure, livelihoods, service provision, and environmental resources' (IPCC SREX, p.5, 2012). Environmental and climate hazards occur at the intersection of natural/climate and human systems.

- *Climate hazard* refers to the possibility or potential of a dangerous and harmful event occurring
- *Climate disasters* are actual occurrences of an event that causes damage and harm when hazards converge with exposes systems (Tanner and Horn-Phathanothai, 2014).

Exposure: "The presence of people; livelihoods; environmental services and resources; infrastructure; or economic, social, or cultural assets in places that could be adversely affected" (IPCC SREX, 2012: 5), where assets refer to the resources that individuals or groups own, control or access. Exposure is treated as a separate element to denote that it is both a function of the presence of physical hazard in a particular location and related to the vulnerability of particular populations or infrastructures (Fraser et al, 2014).

Vulnerability: 'the propensity or predisposition to be adversely affected' (IPCC SREX, 2012: 5). For Urban ARK the propensity to be affected refers to the concept of susceptibility as well as the capacity of actors and systems to prepare for, cope with and recover from disaster events. Furthermore, vulnerability, as composed of susceptibility and adaptive capacity, is an inherent property of a given context and not just the outcome of a particular disaster event.

Exposure and vulnerability are key determinants of disaster risk and of impacts when risk is realised (IPCC SREX, 2012).

Loss and damage: The concept of loss (economic and non-economic) and damage has received increased attention in recent years as a framing of impact within the UNFCCC negotiations. They describe harm associated with climate change impacts that will not or cannot be addressed or avoided through adaptation or mitigation (Dodman and Mitlin, 2014). While a clear universal definition is lacking, put simply "damage refers to impacts from

climate change that can be recovered, whereas loss cannot be recovered" (Dodman and Mitlin, 2014: 2).

Disaster Risk Management: "Processes for designing, implementing, and evaluating strategies, policies, and measures to improve the understanding of disaster risk, foster disaster risk reduction and transfer, and promote continuous improvement in disaster preparedness, response, and recovery practices, with the explicit purpose of increasing human security, well-being, quality of life, resilience, and sustainable development" (IPCC SREX, 2012: 5; IPCC, 2014).

Disaster Risk Reduction (DRR) (builds on disaster risk management): "Denotes both a policy goal or objective, and the strategic and instrumental measures employed for anticipating future disaster risk; reducing existing exposure, hazard, or vulnerability; and improving resilience" (IPCC, 2014). More broadly and originally DRR recognizes development as the key driver of risk (not hazard) and DRR aims to change development pathways, practices and outcomes (UNDP 2004). This is distinct from preparedness, early-warning etc that are hazard and risk management tools. Risk management then also includes post-disaster response and recovery. DRR can also operate in this space where development is the focus of response, recovery and reconstruction activity.

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" (IPCC SREX, 2012: 5). Resilience can be further understood as a process that enables a system to absorb, adapt or transform when faced with shocks or stresses. As Béné et al (2012: 23) explain, building resilience requires interventions that "strengthen the three core components (absorptive resilience, adaptive resilience, transformative resilience) *together,* and at multiple levels (individual, households, communities, region, etc.)".

Adaptation**:** "In human systems, the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. In natural systems, the process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate" (IPCC SREX, 2012: 5).

Absorptive capacity: 'The various (coping) strategies by which individuals and/or households moderate or buffer the impacts of shocks on their livelihoods and basic needs" (Béné et al, 2012: 21).

Adaptive capacity: The capacity to adapt to and shape change: "The combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities" (IPCC SREX, 2012: 5).

Transformative capacity/transformability: The "capacity to create a fundamentally new system when ecological, economic or social structures make the existing system untenable" (Walker et al, 2004).

Transformation: “The altering of fundamental attributes of a system (including value systems; regulatory, legislative, or bureaucratic regimes; financial institutions; and technological or biological systems” (IPCC SREX, 2012: 5).

Conceptualising the terms urban, urbanisation and urbanism:

Urban: this can be defined by administrative category, land-use, predominant economic activity, access to services, population or dwelling density (see below for further discussion).

Urbanisation: can be simply defined as “the shift in population from rural to urban settlements” (McGranahan and Satterthwaite 2014:4) and is generally accepted to describe the increasing concentration of people in urban areas. The IPCC (2014) definition of urbanisation is: “The conversion of land from a natural state or managed natural state (such as agriculture) to cities; a process driven by net rural-to-urban migration through which an increasing percentage of the population in any nation or region come to live in settlements that are defined as "urban centers””.

However, there is considerable conceptual and empirical confusion about urbanisation with no universal agreed definition. As McGranahan and Satterthwaite (2014) point out, major sources of confusion include multiple diverse definitions of urban and urbanisation and a reliance on inaccurate or outdated census data and simplified urban projection techniques for estimating urban and rural populations. Furthermore, there is no international consensus for determining the boundaries of urban areas or identifying when a settlement is ‘urban’ (McGranahan and Sattherthwaite, 2014).

As Figure 1 (from Sattherthwaite, 2016) below highlights, there is considerable ambiguity surrounding the typology of settlements. Satterthwaite (2016) points out, “this ambiguity is important because 20–40 per cent of the population in many nations lives in settlements that could be considered to be either rural or urban – large villages or small urban centres”.

Figure 1: The continuum of settlements from rural to urban (Source: Satterthwaite, 2016)

RURAL	AMBIGUOUS	URBAN
Unambiguously rural settlements with most of the inhabitants deriving a living from farming and/or forestry or fishing	'Large villages', 'small towns' and 'small urban centres'. The proportion of the population in rural and urban areas is influenced by each nation's definition of 'urban areas'	Unambiguously urban centres with much of the economically active population deriving their living from manufacturing or services
Populations of rural settlements range from farmsteads to a few hundred inhabitants	Populations range from a few hundred to 20,000 inhabitants	In virtually all nations, settlements with 20,000+ inhabitants are considered as urban; most nations, many settlements with far fewer than 20,000 inhabitants are considered urban
Increasing population size Increasing importance of non-agricultural economic activities		

A substantial proportion of the population resides in settlements that could be classified as either small urban centres or large villages (and thus rural). This has considerable development implications given ongoing debates and policy shifts in terms of prioritizing 'rural' and 'urban' development (Satterthwaite, 2016).

This difficulty in determining a clear typology of settlements also highlights the complexities in drawing a distinction between 'rural' and 'urban' since, as highlighted above, this can be based on settlement size or administrative importance, economic structure or other factors and combinations thereof (Satterthwaite, 2016).

Urbanism: an approach to understanding processes shaping urban systems, life and experience. This can include social, demographic, political, cultural and technological systems and processes of change. Most usefully urbanism opens discussions across these aspects (Pieterse and Simone, 2013; Parnell and Pieterse 2014; Parnell and Pieterse, 2015)

Additional key terms:

Conflict: 'Conflict occurs when two or more parties believe that their interests are incompatible, express hostile attitudes or take action that damages other parties' ability to pursue their interests. It becomes violent when parties no longer seek to attain their goals peacefully, but resort instead to violence in one form or another' (Conflict Sensitivity Consortium). In other words, conflict is the result of (perceived) incompatible aims, perceptions or behaviours of at least two actors (Scheffran et al., 2012).

Gender relations: ‘socially constructed relationship between women and men, in which women have been systematically subordinated’ (Moser, 1993:3).

References:

Adelekan, I., Johnson, C., Manda, M., Matyas, D., Mberu,B., Parnell, S., Pelling, M., Satterthwaite, D., and Vivekananda, J (2015). Disaster risk and its reduction: an agenda for urban Africa, *IDPR*, 37 (1) 2015 doi:10.3828/idpr.2015.4.

Béné, C., Godfrey-Wood, R., Newsham, A., and Davies, M (2012). *Resilience: New Utopia or New Tyranny? Reflection about the Potentials and Limits of the Concept of Resilience in Relation to Vulnerability-Reduction Programmes*, IDS Working Paper 405, Institute of Development Studies.

Dodman, D., and Mitlin, D (2014). *Towards an urban agenda on climate-related loss and damage*, Asian Cities Climate Resilience: Policy Briefing, Asian Cities Climate Resilience Working Paper series.

Fraser, A., Pelling, M., Blätgen, T., and and Birkmann, J (2014). *The Risk and Root Cause Analysis (RRCA) Framework,* Work Package 1 Deliverable Report 1.1, European Union Seventh Framework Programme, PEARL (Preparing for Extreme And Rare events in coastaL regions) Research Project, http://www.pearl-fp7.eu/.

IPCC (Intergovernmental Panel on Climate Change) (2012). 'Summary for Policymakers', in Field, C. B. et al. (eds), *Managing the Risks of Extreme Weather Events and Disasters to Advance Climate Change Adaptation*. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change (IPCC), Cambridge and New York, Cambridge University Press.

IPCC (Intergovernmental Panel on Climate Change) (2014*): Climate Change: Impacts, Adaptation and Vulnerability: Summary for Policy Makers*, Cambridge and New York, Cambridge University Press.

McGranahan, G (2007). *Urban environments, wealth and health: shifting burdens and possible responses in low and middle-income nations,* Human Settlements Discussion Paper Series, Theme: Urban Environment 1.

McGranahan, G., and Satterthwaite, D (2014). *Urbanisation concepts and trends*. IIED Working Paper.

Moser, C (1993). *Gender planning and development: theory, practice, and training*. Routledge.

Parnell, S., and Pieterse, E (eds.) (2014). *Africa's urban revolution*. London, Zed Books.

Parnell S., and Pieterse, E (2015). Translational global praxis: rethinking methods and modes of African urban research, *International Journal of Urban and Regional Research.* Early online edition.

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

Pieterse, E., and Simone, A (eds.) (2013). *Rogue urbanism: emergent African cities*, Jacana Media.

Satterthwaite, D (2016). Small and intermediate urban centres in sub-Saharan Africa. Urban ARK Working Paper.

Satterthwaite, D., Pelling, M., and Dodman, D (2016). Urban ARK Thematic Note: Extensive Risk.

Scheffran, J, Link, Peter Michael, & Schilling, J (2012). Theories and Models of Climate-Security Interaction: Framework and Application to a Climate Hot Spot in North Africa. In: Scheffran, Brzoska, Brauch, Link, & Schilling (Eds.), *Climate Change, Human Security and Violent Conflict: Challenges for Societal Stabilit*y (Vol. 8, Hexagon Series on Human and Environment Security and Peace), Berlin, Springer, pp. 91-131.

Tanner, T and Horn-Phathanothai, L (2014). *Climate Change and Development*, Abingdon and New York, Routledge

UNDP, (2004). *Reducing Disaster Risk: A Challenge for Development. A Global Report*. United Nations Development Programme, New York, NY.

United Nations (2009), *Global Assessment Report on Disaster Risk Reduction: Risk and Poverty in a Changing Climate*, ISDR, United Nations, Geneva, 207 pages.

United Nations (2011), *Revealing Risk, Redefining Development: The 2011 Global Assessment Report on Disaster Risk Reduction*, United Nations International Strategy for Disaster Reduction, Geneva, 178 pages.

United Nations (2015). *The 2015 Global Assessment Report; Making Development Sustainable: The Future of Disaster Risk Management*, UNISDR, Geneva, 311 pages.

Walker, B., Holling, S. R. Carpenter, and A. Kinzig (2004) Resilience, adaptability and transformability in social–ecological systems. *Ecology and Society* 9(2): 5. [online] URL: http://www.ecologyandsociety.org/vol9/iss2/art5.

World Health Organization (WHO) (2015a). WHO Trade, foreign policy, diplomacy and health: Glossary of globalization, trade and health terms. Available at: http://www.who.int/trade/glossary/story076/en/ .

World Health Organization (WHO) (2015b). WHO Health Topics: Environmental Health. Available at: http://www.who.int/topics/environmental_health/en/ .

The contents of this Working Paper reflect the views of the author(s) only and not those of the UK Department for International Development or the Economic and Social Research Council.