



Mapping the Way Forward

Urban Futures Project Final Report

**HUMANITARIAN
FUTURES**
PROGRAMME

planning from the future

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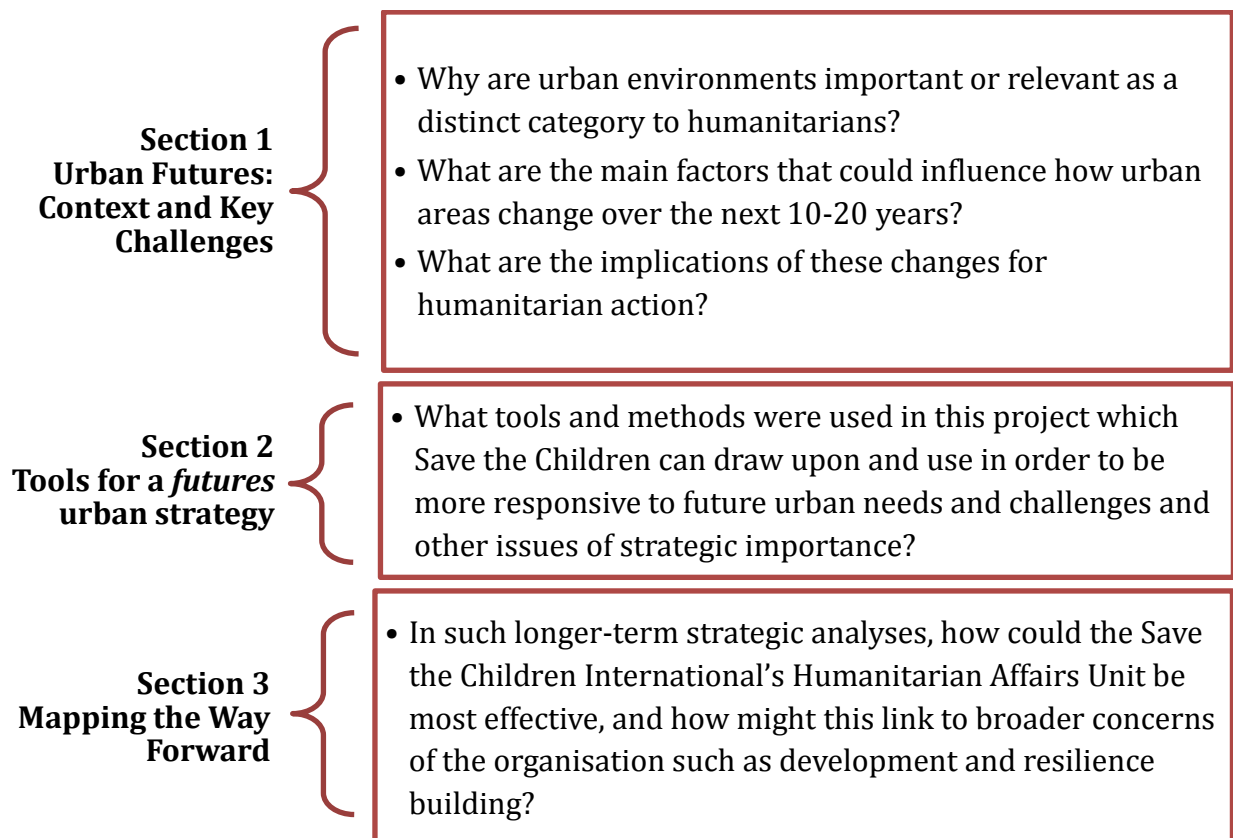
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Executive Summary

The Urban Futures Project is a case study of the processes and methodologies that Save the Children International's (SCI) Humanitarian Affairs Unit (HAU) can adopt to support a more futures-oriented strategy and operational approach across the organization. Urban humanitarianism was chosen as the topic for this project in light of the emergence of urban resilience as a distinct category of humanitarian action and as a horizon issue that humanitarian organizations will increasingly confront in the future.

To that extent, *the Urban Futures Project* is not about one challenge; it is about an approach to longer-term strategic planning. It is about myriad challenges that humanitarian planners and practitioners will have to face in the foreseeable future. Such challenges might concern widespread availability of artificial intelligence and robotics, the intensification of climate change, virtual economies and paradigmatic shifts in the concept of governance. While so many of these will clearly affect the urban space, each of these challenges and a host more will – individually and collectively – affect not only global vulnerabilities and opportunities, but also the work of organisations such as Save the Children and the constituencies which they seek to serve. In an age increasingly marked by rapid change, complexity and uncertainty, the Urban Futures Project offers insights into perspectives and related methodologies that should help Save the Children and others think and plan strategically about the future.

The Report is organised into three Sections which answer five core questions:



Section I Urban Futures: Context and Key Challenges consists of two parts.

Part 1 answers:

1) What is distinct about the urban context for humanitarians?

Part 1 defines the urban context for humanitarians and what aspects of the urban environment are of relevance to humanitarian organisations. It argues that

- **Urban spaces are best defined as hub-like spaces**, where human, economic and informational flows arise from within and without, interact, and subsequently influence both one another and the individuals living within these hubs;
- The main defining flows and processes that shape urban spaces are **demographics, domestic capital, international capital, governance and regulatory processes, and violence and criminality**;
- **A key challenge for humanitarian organisations will be tapping into these processes** in order measure them, anticipate changes and understand their impact on vulnerability;
- In so far as the urban context is defined by an increased intensity of factors that humanitarians already experience in rural or camp contexts, the challenges posed by urban environments may highlight pre-existing weaknesses in tools and practices currently used in rural and camp environments; **adjusting to the urban context may therefore demand more than the adaptation of current tools: in order to be effective in future urban environments, Save the Children will need to re-think and re-design tools and practices.**

Part 2 answers:

2) What are the main factors that could influence how urban areas change over the next 10-20 years?

3) What are the implications of these changes for humanitarian action?

Part 2 provides snapshots of the future urban environment, organised as 12 stand-alone thematic briefings. The 12 themes were identified as the most significant sectors or phenomena shaping the future of urbanisation, based on discussions with 30 experts working in urban planning and risk analysis, futures studies, geography, anthropology, health policy, conflict analysis, education, child well-being and development and humanitarian policy. These snapshots were produced through information gathered during the interviews as well as extensive research of current urban literature, and trends literature around key sectors. The briefings provide an overview to the thematic issue and its possible impact on the future urban environment, as well as implications for humanitarian organisations such as Save the Children. Please find below a short description of each briefing topic and key headings for the recommendations that are described in the full text.

- **Information and Communication Technology**: ICT will drive transformative changes, providing extraordinary means of monitoring potential urban risks and early warning through local and global monitoring systems. Save the Children will need to ensure the **use**

of appropriate data by authorities, **review prevention and preparedness plans to take account of potential grid collapse, address language differences in diverse urban communities through ICT and deal with the challenge of 'noise', or inconsistent messaging;**

- **The Built Environment:** As one looks to the built environment in a futures context, there are myriad possibilities that will transform human-made surroundings and the ways in which human activity is undertaken, including the emergence of 'smart' cities and 'slumscales.' Some of the consequences of built environments for humanitarian action in future urban contexts lead to the recommendations that humanitarian organisations **recognise built environments as continua** that can challenge traditional notions of 'slums', **be prepared for and contribute to 'off-grid' solutions for power, water, healthcare and sanitation and scale up their capacity to monitor urban mobility** in order to **manage the impacts of mass migration;**
- **Demographic Dynamics:** For those who chart demographic change, there can be little doubt that the future may witness unprecedented movement of peoples around the world, and such movements will clearly impact urban landscapes. Save the Children will need to **support assistance that links physical and virtual needs and opportunities**, alter their starting points for **gathering disaggregated data on the movement of families and youth between densely populated areas and more sparsely populated areas**, and **establish reliable internal cross- and multi-border information sharing networks.**
- **Environmental Change:** Environmental change may be one of the most significant drivers of change of the 21st century. Yet, the extent of this change and its humanitarian impacts are still a matter of great uncertainty and controversy. In the face of great uncertainty, humanitarian organisations can anticipate and mitigate new challenges in urban environments by **embracing more strategic approaches that identify short- medium- and long-term environmental hazards, focusing on child-sensitive environmental risks in urban areas, creating multi-layered monitoring networks and hubs for environmental change, and using creative approaches to share knowledge, including specific, dedicated initiatives to ensure coordination between environmental scientists, urban planners and families and children;**
- **Health:** There is an underlying assumption that urban populations will be healthier than their rural counterparts. Yet, this is rarely true, mostly due to the different types of health threats faced by urban populations, such as pollution. The threat of these hazards will necessarily intensify in an urban future in which relative socio-economic determinants of health become more complex, health risks become more concentrated and the challenge of meeting higher levels of dependency become more acute. Humanitarian organisations such as Save the Children will need to **address the quiet crises of non-communicable disease, develop new and sustainable partnerships to improve health care delivery, including**

with the private sector, utilise far more effectively ICT innovations for health such as advanced telemedicine, and integrate approaches to health and livelihoods.

- **Water:** The impact of limited water resources on urban resilience and vulnerability can be enormous, for reasons that are well known: it is a resource not only essential for human survival and health but also for industry, innovation, sanitation, energy, and transportation. To prepare for the potentially disruptive impact of the limited availability of clean water in urban settings, Save the Children will need to **combine local innovative practices with advanced technologies to purify water at the family level, scale up local innovations to deal with water shortages, create a risk map for water-transmitted diseases, and identify the special vulnerabilities faced by coastal towns and cities.**
- **Food security and nutrition:** Food security is a particularly significant issue for urban areas given the traditional dependence of urban dwellers on food that is produced from afar and delivered through supply chains that are vulnerable to disaster. This may change for the better, as enhanced urban capacities for agriculture and green spaces may be able to support an urban ecosystem that provides residents with 'homegrown' produce. Save the Children may need to consider **harnessing genetic engineering of foods, including the creation of meat substitutes, training urban dwellers for small plot usage, using individual unit monitoring systems to measure nutrition status, and creating early warning systems for nutrition.**
- **Economic evolutions and revolutions:** As one looks to urban futures, the revolution in economic functions and processes foretells of changes that will alter the purpose and physical structures of urban areas. Save the Children will need to prepare for the urban future by anticipating and adapting to changes in how economies evolve, **highlighting yet again the importance of using an integrated approach to urban resilience, disaster risk reduction and development programming.** Approaches that Save the Children can take include looking at **non-employment and its potential psychological impacts on the poor, understanding new dimensions of inequality, and anticipating the consequences of villegisation and a growing informal sector.**
- **Education:** Education is one of Save the Children's strongest areas of humanitarian programming. The challenge for Save the Children will be to adapt its approach to urban education services in humanitarian contexts so that it capitalises on the evolution of education, which will be shaped by greater internet connectivity and the delivery of teaching primarily through a virtual environment. Save the Children should look to **interrogate its assumptions about the benefits of education and how it is delivered, engage new educational authorities, build the resilience of a virtualised educational environment, and help to build evidence for the most effective forms and types of education** in a world where basic education will be more widely available.

- **Governance:** The enhanced presence and influence of local and national authorities is a well-noted feature of urban areas that distinguishes it from 'typical' rural humanitarian response contexts. In future urban contexts, political power at the city level may fracture as population density increases, or homogenise as greater resources and support are provided from national and international institutions to help city governments manage their increasing responsibilities. Save the Children will need to **work significantly on its collaboration, particularly with development professionals and local community groups, and identify or support government institutions as holders of critical data, as well as carry out a power analysis of the places in which it wishes to work in order to identify elites and political entrepreneurs.**
- **Informal Sectors:** The informal sector, difficult to define yet omnipresent in the lives of the urban poor, will be crucial to understanding vulnerability and identifying appropriate ways of rehabilitating after a disaster in the future. Save the Children will be more effective in future urban settings if it recognises that **a geographical approach to delivery may not be ideal, given the fluidity of the informal sector and its increasing importance, that informal power brokers are crucial and must be identified, and that Save the Children needs to review its core values and strategies, including its rights-based approach, and articulate how this informs their engagement with informal sectors.**
- **Security:** Crime and violence are commonly understood as both a cause and consequence of deprivation and instability, and it is likely that the scale and nature of future urban security issues will continue to reflect future trends in urban socio-economic inequality. Save the Children will need to prepare to **operate in unfamiliar states of conflict, deal with new actors in insecurity, and adapt to the impacts of cybercrime,** particularly on young people.

Section II Tools for a futures urban strategy answers:

4) What tools and methods were identified and used in this project which Save the Children can draw upon and use in order to be more responsive to future urban needs and challenges?

The Urban Futures Project has been informed by a speculative, *futures*-oriented methodology intended to identify and demonstrate new tools and approaches for use by the HAU. The Project has consisted of four main phases, and observations from each of these phases have been drawn on to inform the design of a set of tools and methods for use by Save the Children.

Phase 1: Tapping internal expertise: During this phase, HFP worked with the HAU to coordinate a Consultative Group consisting of individuals from multiple country and regional offices with an interest or expertise on urban issues. HFP carried out 18 interviews with members of the Consultative Group in Phase 1, and continued liaising with the Consultative Group for further references on urban resilience and response, as well as follow-up Skype calls to discuss current Save the Children approaches to urban strategy.

Phase 2: Exploring the future with Save the Children: The HAU convened at its London-based office a futures workshop, designed and facilitated by HFP and SAMI Consulting, a horizon-scanning consultancy group. At this workshop, 15 participants from across Save the Children regional and country offices engaged in an exercise using the ‘3 horizons’ framework, an approach that endeavoured to have workshop participants think about the urban landscape in 2050 and identify key trends and challenges Save the Children would need to consider in the medium-term.

Phase 3: Horizon scanning with urban experts: HFP carried out 30 interviews with a wide range of experts on the future of urbanisation and its humanitarian implications. Experts included academic researchers, such as urban planners, *futures* researchers, anthropologists, geographers and public health researchers, as well as leading researchers at research and policy institutions carrying out significant work on the urban theme. The purpose of this phase was to identify the key drivers and trends that would shape urban environments in the next 10-30 years, particularly in low- and middle-income countries.

Phase 4: Mapping the Way Forward: In this current and final phase of the Urban Futures Project, HFP has pulled together the lessons learned from the prior three phases to provide a three-section document that maps out key drivers of future urban issues for humanitarians, describes tools that the HAU can employ to support more strategic thinking around future urban humanitarian action, and identifies core recommendations for the HAU to develop as a flexible and future-oriented brain trust for Save the Children International.

Two tools and a third approach to tool development (heuristics) are outlined in Section II. The tools are provided fully in the Annex:

Tool 1: A Consultative Process for Future-Fit Strategy Development

This Tool describes a holistic consultative process which Save the Children staff can undertake with themselves, external experts and children, to identify future strategic priorities. This process draws on the Delphi method, an innovative technique for consulting a range of stakeholders, and includes a brief futures exercise for an HAU analyst to run with Save the Children staff and child beneficiaries. In this application of the Delphi method, the iterative consultative process builds consensus around strategic goals and processes amongst children, Save the Children staff and external experts. This process supports the creation of a Future-Fit Strategy, i.e. a strategy that enables Save the Children to be fit for the future by identifying horizon issues for children in a particular country or region, anticipating what programming is needed to address these issues, and outlining ways of working that allow Save the Children to be more innovative, collaborative and adaptive.

The process described in this tool is targeted at country-level and regional-level offices within the Save the Children family. However, it requires a skilled external facilitator to coordinate the Delphi questionnaires, analyse the results, and facilitate each stage of the process, including the final workshop in Stage 5. It is envisioned that this role would be filled by an analyst based at

the Humanitarian Affairs Unit, who could in turn pull the learning from this process up into global strategic planning processes.

Tool 2: Shared Urban Futures: A scenario exercise for humanitarian and programming personnel

One of the key findings from the Urban Futures Project is that greater coordination and collaboration between development and humanitarian personnel is necessary for Save the Children to effectively build resilience and respond to a humanitarian disaster in an urban context. This 5th scenario exercise presents participants with a set of scenarios for the future and asks them to consider which is the most plausible and preferred future for them as a group. Engaging in this exercise allows development and humanitarian staff to discuss how they analyse potential scenarios differently or similarly and then build a shared preferred future by drawing on their own unique set of strengths and talents.

An Approach to Heuristics:

This report recommends that Save the Children devote the time and resources to innovate new heuristic tools that its staff can use to make better real-time decisions in the context of unexpected challenges. Specifically, Save the Children can:

- Develop context-specific indices to provide a ‘representativeness’ heuristic to urban staff for assessing disaster impact or resilience
- Develop scenario exercises, to be undertaken with staff and children, which enable Save the Children staff to become more cognitively available to speculative and horizon topics that can shape their future urban operating contexts.

Section III: Mapping the Way Forward: Recommendations for a futures-oriented Save the Children International provides a list of recommendations for Save the Children ordered under seven main themes, illustrating how observations from a project on urban futures and resilience can demonstrate the role and operational structure of a dynamic, futures-oriented SCI brains-trust.

A multi-layered, interactive and externally engaged HAU

Save the Children’s strategic approach to future humanitarian challenges, including urban risk, rely on analysis that is relevant to a particular geographical area while also informed by broader research on thematic issues. Marrying these two perspectives—thematic and geographical—is a key challenge to analysis units such as the HAU. A similar challenge lies in ensuring that global strategies are adequately informed by, and follow, realities and perspectives from low- and middle-income countries. In discussion with experts from a range of policy organisations, HFP identified a number of steps the HAU can take in order to build a multi-layered structure that not only balances across global-regional-local-thematic perspectives, but provides a conduit for interactive dialogue and cooperation across these:

- **Organise Advisory Panels to consult with Save the Children on specific thematic topics.**
- **Pilot and develop further the draft consultative process to ensure a holistic approach to developing *future-fit* country, regional and global strategies.**
- **Carry out annual regional reviews of core issues and how they are being approached within the region.**
- **Reach out to slumdweller associations, local credit unions, and other local organisations and structures that are key to understanding power structures, risk and vulnerability in urban areas.**
- **Spearhead stronger engagement and partnership with regional organisations.**
- **Develop innovative interactive communication mechanisms with vulnerable populations that go beyond standard accountability practices and seek to engage such populations in planning and strategic processes before disasters occur.**

Resilience and the HAU

Save the Children's approach to urban resilience and response is currently inhibited by a strong internal divide between humanitarian and development policy and programming. Many experts interviewed during Phase 3 of this project felt that this divide would crucially limit Save the Children's capacity to engage effectively in urban resilience building. While the HAU is naturally placed on one side of this divide, there are many opportunities it can take to build a cohesive approach to urban environments that reflects a more holistic approach to urban risk and vulnerability. Specifically, HFP feels that the HAU can:

- **Define what resilience means for children, and for Save the Children as an organisation.**
- **Coordinate strategic planning sessions at the global level between humanitarian and development managers at senior levels.**
- **Develop activities and opportunities for humanitarian and development professionals within Save the Children to analyse and debate shared issues.**
- **Use data and analysis from development personnel as baseline measurements for use in humanitarian work.**

Innovation monitoring and exploration

The changes and dynamics discussed in [Section I](#) point to an ever-pressing need for humanitarians to innovate and move beyond out-dated ways of working in order to reduce disaster risk more effectively and build resilience in urban areas. ICT is of course a significant mechanism for innovation on which Save the Children can focus its efforts. However, innovations can also be sought through other means, for example by adopting new methods from fields such as epidemiology or anthropology, or by innovating new ways of positioning Save the Children's assistance for different urban users. In this context, HFP feels that the HAU can operate as an engine for innovation within Save the Children International, playing a core

role in monitoring innovation across Save the Children, broadening the impact of these innovations, and exploring unidentified opportunities for improving core practices and products. Some of the ways in which the HAU can achieve this are:

- **Cultivate a culture of innovation through the creation of an incentive structure or award scheme.**
- **Monitor innovation and develop a self-assessment tool.**
- **Design or commission a broader toolkit of futures exercises and practices for Save the Children country and regional offices to use.**
- **Support a stronger 'marketplace' or repository for innovative approaches and experiments across Save the Children offices.**
- **Provide a dependable resource for best practice by acting as a curator of the aforementioned repository.**
- **Focus greater attention on ICT and ICT-based innovations for urban and peri-urban areas.**

Interpreter and Knowledge Curator

[Phase 1](#) of this project found that most Save the Children staff, especially at the regional and country levels, rarely have adequate time to read relevant research, build relationships with external experts and researchers who can contribute to their thinking, both in terms of new ways of dealing with the present and of preparing for the future. During [Phase 3](#), several experts mentioned that many 'urban myths', i.e. mythologies and unproven assumptions about urbanisation and urban risk, were perpetuated through readily available and accessible sources of information, such as Wikipedia pages. In order to get information that would be more sensitive and accurate, the HAU can play a valuable role as an interpreter and curator of information and analysis, specifically by engaging in the following:

- **Develop specialist analyses around thematic topics.**
- **Identify and develop key indices.**
- **HAU as the source of intriguing questions.**
- **Support the work of the Humanitarian and Leadership Academy.**
- **Broker between communities and researchers to create empowering opportunities for disaster-affected populations.**
- **Build an internal contacts log of global expertise.**

Section I: Urban Futures: Context and Key Challenges

Introduction

This report is not about one challenge. It is about myriad challenges that humanitarian planners and practitioners will have to face in the foreseeable future. *The Urban Futures Project* is a case study of the processes and methodologies that Save the Children International's (SCI) Humanitarian Affairs Unit (HAU) can adopt to support a more futures-oriented strategy and operational approach across the organisation. Urban humanitarianism was chosen as the topic for this project because urban resilience is emerging as a distinct category of humanitarian action and represents a horizon issue that humanitarian organisations will increasingly confront in the future.¹

A number of governments, international and non-governmental organisations have commissioned studies, lessons-learned papers and reports, that consider the unique challenges and opportunities presented in preparing for and responding to urban disasters; these studies also explore the new strategies, tools and approaches humanitarian organisations should develop in order to improve their urban operations (ALNAP, British Red Cross, World Vision International, IIED). This report builds on this previous research and recommendations while using a *futures* perspective to highlight how future urban contexts may diverge from assumptions that underpin today's urban environment. It seeks to explore urban *futures*, as opposed to the present, and from this exercise draws broad conclusions and recommendations about the ways that the HAU can meet other *futures*-oriented challenges.

Such challenges might concern the onset of artificial intelligence and robotics, the intensification of climate change, virtual economies and paradigmatic shifts in the concept of governance. While so many of these will clearly affect the urban space, each of these challenges and a host more will – individually and collectively – result in a wide range of other potential humanitarian threats as well as opportunities to reduce them. For organisations such as Save the Children, this approach is intended to help constituencies which they seek to serve.

To that extent, the *Urban Futures Project* is more about an approach to longer-term strategic planning than it is solely about the urban space. In an age increasingly marked by rapid change, complexity and uncertainty, the *Urban Futures Project* offers insights into perspectives and related methodologies that should help Save the Children and others think and plan strategically about the future.

¹ Pelling 2003; Ramalingam & Knox-Clarke 2012.

Part I: Defining the Urban Context

What is the urban context and what do humanitarians need to know about it? We can expect that urban populations experience vulnerabilities different in kind and in scale than those experienced by individuals living in rural areas. It is equally reasonable to believe that the urban landscape, characterised by human-made infrastructure and high population density, poses distinct challenges and opportunities for humanitarian actors seeking to prepare for and respond to crisis. However, in order to arrive at a strategic approach that can guide urban programming over time, Save the Children needs to explore the assumptions that support these common sense observations. Here, in Part I, we outline three main approaches to defining the urban environment and discuss reasons in support of an approach that focuses more on the processes that shape urban environments than on a set of particular characteristics. In [Part II](#), we discuss in detail eleven drivers shaping urban landscapes in the future that will have implications for humanitarian actors such as Save the Children.

The Urban as a Rigid Category

The strength of a humanitarian urban strategy depends upon how usefully it defines the urban operating context. In the academic work around urbanisation, researchers continue to debate how 'the urban' is best defined and measured. While humanitarians should remain aware of these arguments, they must not become tied down by them. Rather, humanitarians concerned with urban issues should seek to develop a *workable* definition of the urban environment which supports an effective urban humanitarian strategy, and the unique interests of the humanitarian actor.

An initial approach might be to identify firm metrics that can be used to classify an area as 'urban' or 'rural.' However, such an approach proves to be very difficult in practice. This is evident by the official statistics on urbanisation, often used to support UN-HABITAT predictions on the rate and future of urbanisation. These statistics are based on metrics that vary widely from country to country, depending upon how each country chooses to define an urban area. These metrics can include geographically defined administrative divisions, the extent of settlement population size and density, or the rate of economic activity. Compounding this inconsistency is the fact that country-level definitions of the urban have changed over time in different ways, and these differences are frequently embedded in calculations relating to urbanisation trends. As such, what may be considered as urban in one country may alternatively be construed elsewhere as a city centre, peri-urban fringe area or a densely populated isolated region. For example, if India were to adopt the same definition as Sweden, the global urban population and level of urban poverty would increase significantly, simply through an alteration in the meaning of 'urban centre.'²

When researchers on urbanisation attempt to identify their own defining characteristics outside of official government-based metrics, they may still find that establishing a one-size-fits-all definition that allows for cross-comparability is challenging. Researchers at the Asian Trends

² Satterthwaite 2001, p.11.

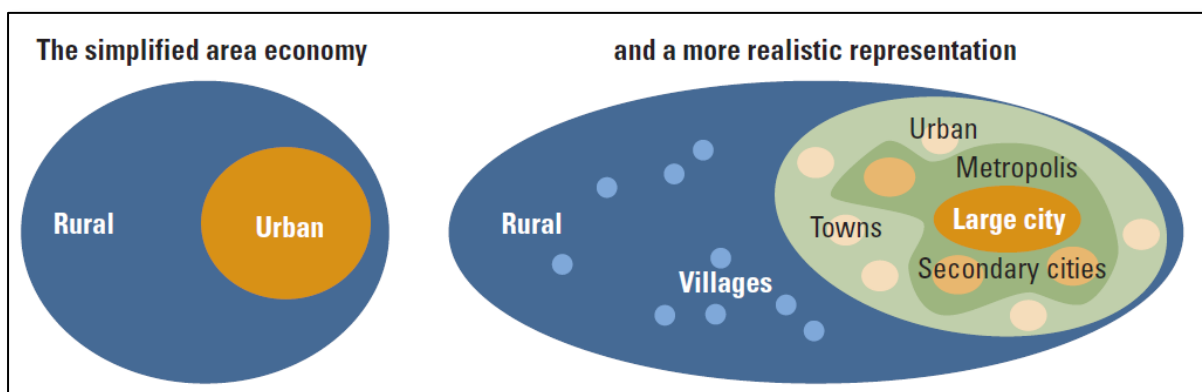
Monitoring Bulletin, for example, found that, across urban centres in the same region, some key features, such as the concentration of governance and regulatory structures, were shared, while others, as population density, varied widely.³ This made establishing comparability across the cities more difficult.

The vulnerabilities that the humanitarian actor would expect to address in a densely populated yet isolated region might be different from those expected in a city centre elsewhere. Such rigid and often inconsistent definitions are therefore often ill-suited for practical humanitarian purposes.

The Urban as a Spectrum

More recently, and as articulated in the ALNAP report, *Meeting the Urban Challenge*, thinking on urban landscapes in the humanitarian sector has moved beyond such rigid rural-urban categorisations towards a spectrum-based approach. In this conception, the urban-rural divide is represented by a continuum along which there is no clear divide between urban and rural, but a spectrum with mega-cities on one end, foothill settlements on the other, and a range of 'villages, small towns, regional centres and medium-sized cities in between.'⁴ This spectrum consists of three factors: density, diversity and dynamism, with the idea being that as these three factors increase, the humanitarian engages an environment which is increasingly urban and decreasingly rural.

Figure 1: From dichotomy to continuum: a portfolio of places⁵



This spectrum approach is a considerable improvement over the rigid category approach to defining urban areas. However, in light of the future of urbanisation, there may be limitations to using this approach to ground a futures-oriented urban humanitarian strategy. For instance, density, diversity and dynamism are presented as features that are intrinsically correlated to one another: where there is greater population density, it is presumed that this contributes to an increase in the other two features. However, comparability remains a challenge for this approach to defining the urban environment. There are already present day examples of urban and peri-urban areas where these three features pull apart. For example, Vientiane, the capital

³ Interview with Johannes Loh, 18 June 2013.

⁴ Ramalingam and Knox Clarke 2012, p. 4.

⁵ ALNAP 2011

city of Laos, hosts a high population density relative to the rest of the country, yet compared to urban centres in other countries, it resembles more of a village. Vientiane also has less diversity, but features a centralised governance and regulatory structure, something highly relevant to humanitarian organisations and how they would approach an emergency response. Similarly, peri-urban areas can exhibit low population density relative to the urban centres around which they are clustered, yet still experience high levels of diversity and dynamism due to the economic factors which stimulate human movement between these outer areas and the urban core. A humanitarian's urban strategy therefore appears to need to incorporate factors beyond density, diversity and dynamics if it is to better define the urban risk environment.

The Urban as a Hub of Processes and Flows

What has become clear throughout the course of HFP's research is that urban areas and, as such, human vulnerabilities within them, are to a great degree defined by what might be described as the intensity of a set of processes and patterns that dictate human settlement within a given area.⁶ To that extent, the urban environment may be described as a hub-like system, where human, economic and informational flows arise from within and from outside that hub. They interact in various ways, and yet influence one another. In their intensification, they comprise the urban environment. Based on interviews with key urban experts, HFP identifies the key flows and processes affecting human settlement, and thus defining the urban environment, as follows:

Demographic flow: The movement of people. Intensification of demographic flows indicates higher rates of human movement in and out of a given geographical area, and also in many cases a higher fixed population density.

Capital flow: The movement of domestic and international finance. Urban areas feature an intensified accumulation of surplus capital.

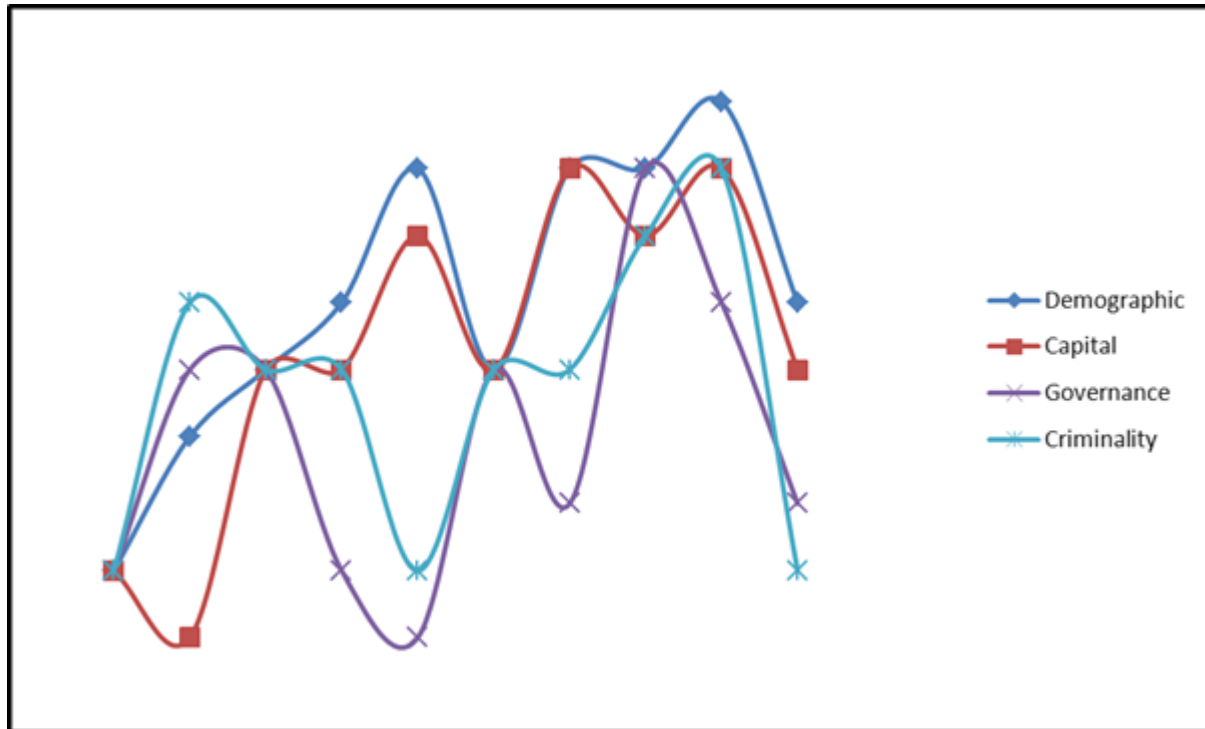
Governance and Regulatory Processes: The processes through which legal and political business is conducted. These occur at a greater rate where core legal and political institutions are located.

Criminality: Illegal activity, including violence and drug trade. The heightened presence of capital flows corresponds with the development of a shadow economy built around illegal activity.

Figure 2 provides a sample depiction of how urban centres might be visualised based on the intensification of the set of processes that shape human settlement and interactivity. The letters A, B, and C, denote what we would define as more 'urban' areas, given the congregation of these processes in those boxes.

⁶ Interview with Mark Pelling, 13 June 2013.

Figure 2. The Urban Space as a Hub of Flows and Processes



A hub-like emphasis on the flows and processes constantly shaping the urban space enables a focus on aspects that are critical to a definition of urban, and, as will be demonstrated, to an understanding of context-specific urban vulnerabilities. Indeed, by moving from a rigid definition of urban to one defined in terms of dynamic flows of processes and patterns, humanitarians can begin to identify urban vulnerabilities in ways that reflect the intense complexity, variety and rapid changes that in reality is ‘urban.’

This hub-based approach to understanding the urban environment is as notable for what it does *not* include as for what it does include. During the expert interview phase of this Project, HFP solicited experts’ views on the key ‘urban myths’ that they felt the humanitarian actor should be aware of when conceptualising and defining the urban environment.⁷ These included:

- **That urban populations are better off than rural populations in terms of health, poverty or education statistics:** Oftentimes, this misperception is based on a failure to disaggregate data in urban environments, which feature a greater degree of inequality amongst inhabitants
- **That there is less of a community structure and more social fragmentation in urban environments:** Some experts felt that community dynamics were even stronger in urban areas, particularly in cities and neighbourhoods where families migrated together from a rural setting to live in close proximity in an urban centre, or where people of similar faiths or ethnicities chose to congregate in the same urban neighbourhood. They felt that large

⁷ See also Satterthwaite 2001.

humanitarian organisations such as Save the Children may need to devote more time to understanding local dynamics in order to understand these different community structures.

- **That resolving urban vulnerability requires an urban presence:** The influence of events and phenomena in per-urban and even rural areas can shape urban vulnerability in significant ways. By better understanding these processes, Save the Children may find that it can have significant influence on urban vulnerability through targeted initiatives in peri-urban areas that reduce the negative impact of practices in per-urban segments on centralised urban populations.

Defining the urban future

Conceiving of the urban environment as a hub of flows and processes raises difficult issues in trying to characterise the ‘urban’ environment. However, as urbanisation continues over the next two decades, humanitarian organisations will need to spend more time monitoring these flows and processes, and their impacts on vulnerability and risk, rather than develop fixed approaches that become quickly outdated in a fast-changing urban environment. By suggesting that the urban space is in a constant state of complex change, it is evident that the urban space cannot be viewed in linear terms. It is not, in other words, urban trends, per se, that is important to understand, but rather an appreciation of the underlying dynamics of urban change. Therefore, two key issues for the humanitarian actor are how to determine which urban dynamics are most important at any one point in time and how these might be relevant to the development of acute urban vulnerabilities.

Conceived within the framework of a hub, adapting appropriate humanitarian strategies for the urban environment will require appreciation of, preparation for, and adaptation to the factors influencing the flows and processes that define urban change. In Part 2 of this section, HFP presents profiles of 11 drivers for urban change that are of vital importance to urban humanitarian intervention. The issues discussed are not predictions, but rather ‘*what might be*’ speculations that are intended to challenge Save the Children to think more strategically about the urban issues it may confront out to 2030.

To illustrate the kinds of innovative approaches Save the Children may need to adopt, each thematic piece proposes a series of relevant implications of change which are likely to impact the urban operations of Save the Children and humanitarian action in *futures* urban contexts more broadly. These implications ultimately feed into a series of suggested approaches, methodologies and tools to enable Save the Children and the HAU to ‘plan from the future’ in its urban operations and better prepare itself for 21st century humanitarianism more generally.

Part II: Future Urban Change & Its Humanitarian Implications

In the remainder of this section, HFP presents profiles of key drivers for change in the urban environment over the next two decades, creating a snapshot of the future urban challenges that in various ways Save the Children will have to face.⁸ Taken individually and together, these are to be understood as drivers that shape the intensification of the patterns and processes that define urban areas, as listed above in Part I. These snapshots draw on extensive research of current urban literature, trends literature around key sectors that pertain to urbanisation and, most importantly, one-on-one interviews with 30 experts working in urban planning and risk analysis, futures studies, geography, anthropology, health policy, conflict analysis, education, child well-being and development and humanitarian policy. For the reader's ease, each profile can be read as a stand-alone piece that provides a general overview of how each driver area may be expected to evolve over the next two decades, its impact on the future urban environment, and implications for Save the Children in terms of both challenges and opportunities. The driver areas explored in these profiles are:

- [Information and Communication Technology](#)
- [The Built Environment](#)
- [Demographic Dynamics](#)
- [Environmental Change](#)
- [Health](#)
- [Water](#)
- [Food Security and Nutrition](#)
- [Economic revolutions and evolutions](#)
- [Education](#)
- [Governance and Informal Sectors](#)
- [Security](#)

⁸ These driver profiles draw on extensive research on current literature, around urbanisation as well as around the key sectors that pertain to urbanisation. Most importantly, they are deeply informed by one-on-one interviews with 30 experts working in urban planning and risk analysis, futures studies, geography, anthropology, health policy, conflict analysis, education, child well-being and development and humanitarian policy.

Information and Communication Technology

One of the major, if not the major, transformative issue in the foreseeable future is information and communications technology (ICT), closely followed by robotics. For many, it has become a planner's mantra, if not a truism, that these will continue to transform all aspects of human existence at an exponential rate. There remain those who are sceptical regarding the transformative potential of ICT. However, Save the Children ought to bear in mind that many current everyday uses of ICT, including the use of tablets and mobile phone technology in humanitarian assistance, would have been considered wildly speculative 20 years ago. They should also consider that their role should be to *lead*, not follow, the harnessing of ICT innovation to build resilience and protect children in post-disaster settings.



According to Google's Executive Chairman, 'In the next decade the world's virtual population will outnumber the population of the Earth'. Practically every person will be represented in multiple ways on line, creating vibrant and active communities of interlocking interests that reflect and enrich our world. All of those connections will create massive amounts of data – a data revolution some call it – and have the potential to empower citizens in ways never before imagined. Yet, despite the potential positive changes that can occur through these advances, another impact of this data revolution will be to strip citizens of much of their control over personal information in virtual space, with significant consequences in the physical world.⁹

Clearly the world of ICT holds extraordinary benefits as well as disconcerting threats for human beings around the world. In urban areas, it is evident that the opportunities for data collection and analysis offered by ICT mean that even in the densest conurbations, mass can be individualised one may no longer need a 'one size' a generalised assumption or solution to fit all. As noted in smart cities, below, customized data systems such as SCADA (Supervisory Control and Data Acquisition) and Phasor Management Unit (PMU) provide vast quantities of data that guide opportunities affecting the individual and infrastructure within even the most highly populated urban areas.

Greater reliance on ICT grids leads to both greater opportunities for meeting basic needs, but at the same time greater vulnerability of meeting needs should ICT grids collapse. The collapse of a significant portion of such technologies will have a transformative impact. In worst case scenarios as currently envisioned by experts in virtual security, the result could be to hurtle the prospects for human development into a horrendous 'dark age.'

ICT is such a transformative driver area that it cross-cuts all the other 10 driver areas described below and serves as a core axis in the urban futures scenario exercise described in [Section II](#) of this Report, detailed in the Annex. The ways in which ICT capacities are built in low- and middle-income countries can have significant impacts on urbanisation, as reasons for migration to urban centres can either be lowered (because rural inhabitants can achieve greater access to markets and goods without needing to be physically present in a city) or raised (because investment in optical fibres remains concentrated in densely populated urban areas, leaving rural areas with low connectivity). Advances in information technologies will eventually be used to promote mass customization: the means by which the health and educational needs of large numbers of people are met through highly individualised interventions and services.¹⁰ In terms of governance, ICT offers empowerment, as discussed, below under the Governance driver profile. At the same time, ICT poses very serious threats. All too evident is the prospects for tensions between government bodies and citizens, where through social networking the latter finds themselves in contention with official positions and policies. There, too, is the consequence of so-called ‘noise,’ where a plethora of messages amongst a wide range of ‘connected people’ can lead to confusion, inconsistencies and a sheer overload of information.



A related theme is robotics and artificial intelligence (AI). While some foresee AI to be a looming ‘existential threat,’¹¹ there can be little doubt that the impact of both AI and robotics will be profoundly transformational. They will affect virtually all aspects of human existence, from health to security, from education to the economy. In this sense, those who appreciate the full dimensions of ICT now, and its future potential have a significant opportunity to be leaders in the humanitarian field. Such leadership will, however, not only involve identifying new opportunities afforded by ICT, but also the threats it poses.

With the above in mind, there are many humanitarian implications of ICT advances in the urban context, some of which are noted below:

¹⁰ Mass customisation is a term generally used to describe manufacturing processes in which use of flexible computer-aided manufacturing systems are employed to produce custom output. Those systems combine the low unit costs of mass production processes with the flexibility of individual customization. See: Hartcollis, 2013

¹¹ Cambridge University’s Centre for the Study of Existential Risks noted in July 2013 that ‘many scientists are concerned that developments in human technology may soon pose new, extinction-level risks to our species as a whole. Such dangers have been suggested from progress in Artificial Intelligence, from developments in biotechnology and artificial life, from nanotechnology, and from possible extreme effects of anthropogenic climate change. The seriousness of these risks is difficult to assess, but that in itself seems a cause for concern, given how much is at stake.’ See; www.cser.org

Text Box 1: Implications of ICT for Future Urban Humanitarian Action

Engaging with appropriate authorities: In light of the prospect that ICT will provide hitherto unparalleled means of monitoring potential risks and early warning through global monitoring systems, Save the Children should establish close working relations with those urban authorities responsible for gathering and analysing data.

Ensuring appropriate data: Similarly, Save the Children should harness the prospect that these data systems will be able to collect and analyse data about potential and actually vulnerable children and their family members. Save the Children can assist relevant authorities to customize data in order 'to customise' interventions – particularly in terms of health and education – in a timely and appropriate manner. This includes the use of direct cash payments in a post-disaster setting, where payments may increasingly be delivered through governmentally administered electronic currency systems.¹²

Review prevention and preparedness plans: In light of transformative capacities of Internet and related social networking systems, Save the Children should revamp where appropriate its prevention and preparedness plans. In parallel, it should prepare alternative plans to take into account the consequences of possible Internet collapse.

Addressing language differences: One of the most consistent barriers to effective early warnings in dense urban areas is the issue of language. 'Even in New York City with Hurricane Sandy, there was the issue of immigrants who didn't speak English and who didn't understand the evacuation message.' In the future this very fundamental concern could well be overcome by instant translation and communication systems that already are in their nascent form, for example, via Google.

Dealing with 'noise': Noise, or, contending and inconsistent messaging, will complicate operational needs identification and response modalities. Therefore, part of Save the Children's prevention and preparedness plans will have to reflect that hazard. Means to deal with 'noise' will require operational arrangements with NGO consortia and the UN system, as well as responsible authorities, certain private sector firms and the military.

¹². 'MasterCard and UBA Unveil Personalised Debit Card in Nigeria, MasterCard Press Release, 6th August 2013. Available: <http://newsroom.mastercard.com/press-releases/mastercard-and-uba-unveil-first-ever-personalized-debit-card-in-nigeria/>.

The Built Environment



The flows and processes that in various ways intensify and de-intensify to mould 'urban', peri-urban and 'rural' spaces will be reflected in so-called 'built environments,' or, human-made surroundings that provide the setting for human activity. These range from buildings and parks, neighbourhoods, communities and cities to supporting infrastructures that include communications, transportation, water supplies and energy networks. It has been defined as 'the human-made space in which people live, work, and recreate on a day-to-day basis.'¹³

As one looks to the built environment in a futures context, there are myriad possibilities that will transform human-made surroundings and the ways in which human activity is undertaken. Those seeking to anticipate the '*what might be's*' in this

context might wish to consider at least five possibilities:

The Smart City: The difference between a 'smart city' and an 'intelligent city' reflects the attention and investment that the former puts into social and environmental capital. To that extent, part of the built environment of an effective urban area reflects 'mechanisms for sensing and forecasting threats and controlling as rapidly as possible a large quantity of data.'¹⁴ Cities around the world have all too often failed to respond to the geopolitical and economic changes that have affected their flows and processes – their very viability - and for that reason, sensitive and customized data systems such as SCADA (Supervisory Control and Data Acquisition) and Phasor Management Unit (PMU) provide vast quantities of data that guide opportunities affecting the individual and infrastructure within even the densest conurbations;

The Tall City: There are predictions worth noting that urban infrastructure will literally soar. Every year China is adding floor space totalling 2.5 times the residential and commercial square footage of the city of Chicago. India similarly could add floor space equal to another Chicago each year to meet the needs of its urban population. A considerable portion of such developments will be mega multi-story construction, meaning that, in several cities, much of urban growth will be upwards. This clearly will have consequences on the way people live, and on their accessibility when it comes to services and assistance;

Villageisation: Urban growth has traditionally been described as the expansion of small clusters of communities that for various reasons link together physically, socially and

¹³ V.Lee, Mikkelsen, L, Srikantharajah, J, Cohen, L. 2013 'Strategies for Enhancing the Built Environment to Support Healthy Eating and Active Living,' Prevention Institute.

¹⁴ Bugliarello 2011

economically.¹⁵ In contrast to the ‘Tall Cities’, in other areas this centrality and density will be reversed, and there may be a return to clusters of activities and settlements that reflect physically self-contained communities. This will be sustained in a physical sense by energy and communications-related capacities that will not require large-scale integrated infrastructures, and will serve individual or small clusters of dwellings. At the same time, these emerging physically self-contained ‘villages’ may be linked to other villages not by physical requirements, but instead by functional interests – nationally, regionally and internationally – such as common financial and investment interests, or manufacturing, cultural and educational interests.

Slumscapes: Be they *favelas* in South America, coastal slums in West Africa or decaying neighbourhoods of the US ‘rust belt,’ the living space of what are deemed to be the poor have a critical dynamic in urban contexts. In the future as in the past, the landscapes of so-called ‘slums’ will spread within and on the periphery of urban areas. These areas will be characterised by even greater dynamism and tensions as they receive the ‘ebbs and flows’ of mass migration due to the consequences of various crisis drivers such as climate and resource conflicts (See: **demographic dynamics**, below). At the same time, they will have their own form of informal governance, and will by no means be solely the home of the impoverished (See: **governance** and **water**, below).¹⁶ Wealth and poverty, and cultural and linguistic diversity will all be increasing characteristics of **slumscapes**.¹⁷

For the humanitarian NGO, the evolution of slums and the treatment and perceptions of those who live in these informal spaces will become a defining issue for preparedness and response in urban settings. Such organisations will need to become more familiar and comfortable with informal zones, even as urban planners and economists continue to ignore or stigmatise them. Moreover, as these areas expand and increase in population density in the future, a microscopic approach to engagement in a slumscape



15 There is a continuing debate amongst academics and policy-makers about the factors that lead to urbanisation. Of the various schools of thought, one important concern is the extent to which growth in terms of GDP triggers urbanisation, or, vice versa, urbanisation triggers growth. In a recent paper, Anett Hofmann and Guanghua Wan (‘Determinants of Urbanisation,’ Asian Development Bank, Economics Working Paper Series, No. 355, July 2013) argue for the latter in a very convincing way. However, as one looks to the future, the factors that are very likely to influence GDP growth such as virtual-based technology will not need urban environs.

16 ‘This is the future of many megacities in the developing world, from Nairobi to Caracas. There is a de facto sharing of power between the legitimate organs of the state and the gangs, the militias. Many people will die as the exact contours of this power-sharing are negotiated. Suketu Mehta ‘In the Violent Favelas of Brazil’, NY Review of Books. Available: <http://www.nybooks.com/articles/archives/2013/aug/15/violent-favelas-brazil/?pagination=false>

17 Several urban experts who participated in the interview stage of this project highlighted that even the use of the term ‘slum’ was controversial and that the concept of a slum remains highly debated for its usefulness and its normative implications. As a rights-based organisation, Save the Children will need to bear in mind the power of labels as it increases its engagement in informal and impoverished areas, and consider how it wishes to approach the conceptualisation and portrayal of ‘slums’ and ‘slumdweller.’

will be crucial to effective disaster preparedness and response. It has been argued that an approach to understanding slums and their inhabitants will need 'to shed its loose set of presumptions and explore in detail the history, labour, materiality and performance of the multiple spatial imaginaries and practices.'¹⁸ For the humanitarian NGO, the practical take-away is that humanitarians must get involved in urban spaces early on, and work at the very local level with partners in order to build their capacity, monitor and engage in the swift moving and diverse landscapes of future slums.

Text Box 2: Implications of the Built Environment for Future Urban Humanitarian Action

Built environments as continua: The challenge that may well face humanitarian workers in the foreseeable future is that the urban landscape will be increasingly dense – both vertically and horizontally – and sprawl across wide areas that incorporate both rural and peri-urban areas. With that in mind, dialogue and collaboration between humanitarians and urban planners will be a crucial avenue for enhancing the resilience of an urban community. In particular, humanitarians will need to be aware of urban 'heat islands'¹⁹, areas in urban centres where human activity leads to increased and often extreme temperatures. Humanitarians, working in partnership with development programming personnel, can bring a social justice lens to urban planning that can create more sustainable and resilient built environments for generations to come. But they must do so with the recognition that current peri-urban areas may be as significant for reducing risk and vulnerability as urban centres, especially as urbanisation continues to grow horizontally.

Using new materials for built structures: Present-day urban environments already pose challenges to shelter experts seeking to identify the appropriate material for use in temporary shelters in urban response settings.²⁰ As the use of materials changes over the next two decades, this will become an ever more demanding challenge. In a smart-city, for example, buildings may be increasingly built with optical fibre instead of concrete or brick; the use of vertical space by tall cities may need replication in short-term housing, in order to accommodate large populations of disaster affected people.

The continued rise of 'off-grid' solutions: Throughout the twenty-first century, urbanisation will have provided new migrants from rural areas with more complex environments that challenge them to become more complex themselves. NGOs will be those who do not try to 'solve the problems' of the slums, but rather try to set the conditions in which the psychosocial transition from rural to urban could occur quickly and without reaching unproductive levels of human suffering. This will include providing slum residents with wireless service, ubiquitous educational programming, and 'off-grid' solutions for power, water, healthcare, and sanitation. Interestingly, these 'off-grid' solutions also will yield benefits for those who remain in rural areas.²¹

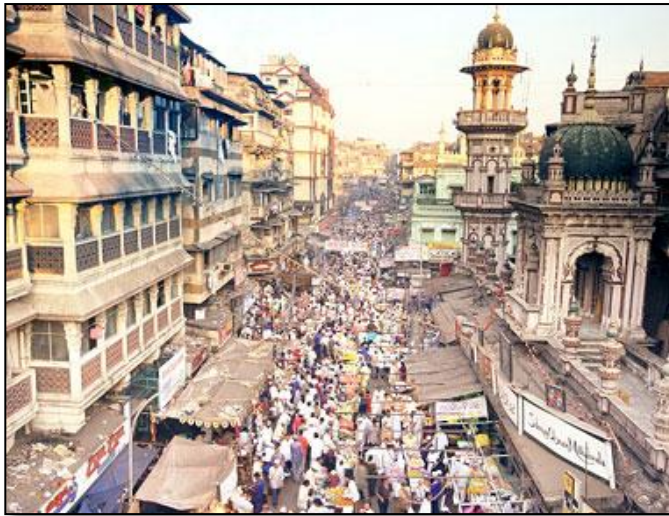
18 Arabindoo 2011b.

19 These were identified by many experts as a crucial rising urban threat.

20 See <http://www.dezeen.com/2007/12/17/translucentconcrete-by-andreas-bittis/> for the use of optical fibres as building material.

21 This point comes from Eric Meade who is senior futurist and vice president of the Institute for Alternative Futures in Alexandria, Virginia. www.altfutures.org.

Demographic Dynamics



The flows and processes that define the concept of the urban as a 'hub' are clearly demonstrated by the dynamics of demography. For those who chart demographic change, there can be little doubt that the future will see unprecedented movement of peoples around the world, and that such movements will clearly impact urban landscapes. Given its relevance for shaping most countries' economic and political conditions, the social demography of urban settlements will

continue to define the nature of future humanitarian programming in urban areas. Understanding several key future demographic issues related to the determinants of the size, structure and distribution of urban populations will be essential for humanitarian as well as urban planners to take into account:

Involuntary and voluntary migration: There are well-founded warnings that factors such as climate change, and its impact on conflict, food and water scarcity, will cause unprecedented population movement. It has often been suggested that population movements in the hundreds of thousands could occur with regular frequency, for example, from Pakistan to India, or from Bangladesh to India, or indeed from northern parts of India to the south. The ultimate destination for these populations would likely be densely populated urban areas, or peripheral *slumscapes* of 'borderland cultures' or 'stranded minorities'.²²

In this context, it is also important to note that involuntary migrants have rarely been included in urban planning due to the expectation that they would return home when conditions allowed. However, as a result of several factors related to the real and perceived advantages of urban living for employment and services, the opposite has more often proven to be the case.²³ As suggested above under *Villageisation* and *Slumscapes*, an alternative futures perspective suggests that such populations may not choose to return to their original homes and would instead be more prone to much greater movement back and forth between new and previous homes than normally assumed.

The dynamics of future voluntary migration will have important urban implications too. One estimate of around a decade ago suggested that over 185 million people had chosen to live in

22 The concept of 'borderland cultures' and 'stranded minorities' are taken from: Cohen (1997). 'Global Diasporas': An Introduction', University College London. London.

23 Weiss-Fagen (2011). 'Refugees and IDPs after Conflict: Why they do not go Home', Special Report, United States Institute for Peace, Washington D.C.

another country, and that most countries do not experience one type of immigration such as 'labor..., refugees or permanent settlement...but several types at the same time, thus complicating national and international policymaking'.²⁴ It is highly likely that this trend will intensify dramatically, and that a consequence of such a rise when combined with involuntary migration will be far greater cultural diversity within intensely populated areas than is evident today. One factor that might accommodate such intense diversity will be highly developed translation capacities that will be part of all futures telephone and internet functions. This indicates that demographic changes may lead to greater tension but also to greater collaborations if the right kinds of ICT innovations are widely available.

Ageing: Declining birth rates and increasing life expectancies will result in an almost certain transition to a more elderly global population. While this trend is most pronounced in the more developed world, the rate of change in less developed countries is more rapid. Brazil, China and Indonesia are each expected to see their elderly populations double within 25 years.²⁵ Due to increased longevity, the proportion of those aged 80 years and older will also grow comparatively rapidly, doubling in size out to 2030.²⁶ Ageing and longevity will have mounting significance for urban policymakers in all regions. Healthcare systems will be forced to adapt to the needs of an evolved age structure and, with the number of workers declining relative to those in retirement, urban areas will increasingly face fiscal challenges that require potentially unpopular economic decisions. That said, as noted under [Health](#), health technology may significantly offset a substantial proportion of these costs, and urban areas may develop more widespread community-based caring systems, as discussed in [Structural Non-employment](#)

Youth: Although the proportion of elderly people in the population will increase and rural push factors may weaken, young people are likely to remain particularly determined to escape remote or economically stagnant regions. However as urban populations absorb young people at a faster rate than that at which city infrastructures can adapt, young people are likely to see an alarming decrease in livelihood opportunities as their transition to adulthood is threatened by weak socio-economic integration and under-serviced by public goods and services. Young urban dwellers will therefore remain the most vulnerable to large-scale and everyday disasters and, through constituting the most criminally active and alienated segment of the urban population, may prove to be substantial challenging to accepted authorities.

24 Castles & Miller (2003). 'The Age of Migration', (Third Edition), Macmillan, London.

25 Chamie, (2012). 'For better planning, watch global demographic trends', Macmillan Center for International and Area Studies [online], Yale University, 12th December. Retrieved: 30th July 2013.

26 Ibid.

Text Box 3: Implications of Demographic Dynamics for Future Urban Humanitarian Action

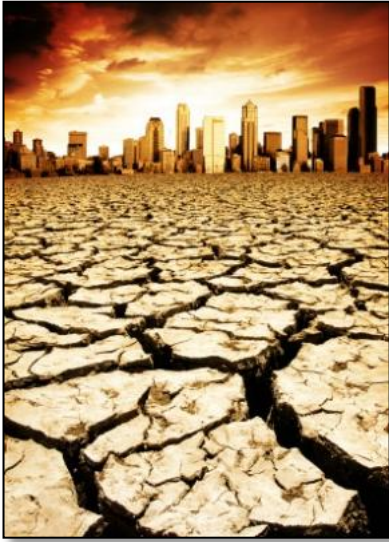
The old and the young: Global ageing could have severe socio-economic and political implications for young people in urban areas in two key ways. Firstly, as health improves and populations age, the number of elderly dependents will rise, and rapidly so in some developing countries. This will place great pressure on young peoples' livelihoods and may disincentivise their pursuit of traditional educational and formal employment. Secondly, and subsequently, older populations are likely to work for longer, decreasing the variety and number of opportunities for young people and weakening their prospects for socio-economic and political empowerment. Policy decisions may increasingly favour growing older populations, creating disenfranchisement and potentially unstable youth populations.

ICT in a demographic context: The Internet and related technologies may on the other hand significantly alter the draw from rural to urban. Families, including children, and the young may be less interested in moving to densely populated urban areas, and instead rely upon benefits arising out of the use of virtual resources. In that sense, NGOs such as Save the Children will have to find ways to provide their support in three specific and inter-related ways, described below in the final three implications.

Monitor urban mobility through disaggregated data collection: Children and families will be part of dispersed urban communities where the built environment will on the one hand reflect intense levels of mobility and on the other, additional difficulties when it comes to access in an urban environment increasingly dominated by skyscrapers. Save the Children will have to recognize this volatility, and in so doing establish monitoring capacities across potentially linked urban landscapes. This structure should be part of its prevention and preparedness planning, and should link into ICT systems that can enhance child monitoring and their needs;

Recognise the need for reliable information sharing networks to monitor mass, cross-border and involuntary migration: While it is likely that intense levels of mobility will increasingly characterize the urban landscape, the humanitarian worker will also have to be prepared to deal with the ebbs and flows of mass migration. There is a growing likelihood that for various reasons – including persistent droughts, related water crises and resource conflicts – large numbers of people will tend to move from affected to stable areas in waves. Those who will be forced to migrate – whether victims of resource conflict, basic resource scarcity or even technological disaster – will increasingly require more prolonged and extensive care than refugees and the internally displaced ordinarily receive. As noted above, planners have traditionally assumed that those who are displaced will eventually return to their original homes. In light of the sorts of crises with which they shall be faced, return is probably unlikely, and organisations such as Save the Children will have to look at the needs of children, the young and in many instances their families as long-term beneficiaries. Inevitably they will have a disruptive impact on the communities that receive them; and, children – both those who were part of migrating families and those who were longer-term residents – will be seriously affected. Such plausible scenarios reinforce the importance for Save the Children to ensure effective monitoring systems across regions and to ensure that data systems are in place to identify needs and backgrounds.

Environmental Change



As economic and related societal transformations intensify, the race is on between the increasingly impactful consequences of climate change and environmental degradation, and the adoption of appropriate measures that can significantly reduce these impacts. The stakes of this race are not lost on a growing number of urban leaders. At least three Japanese cities have become ‘eco-cities,’ with a clear determination to share their experiences with other Asian countries. Interestingly enough, these efforts have resulted in a growing belief that ‘energy saving production processes and natural materials used in the past can be combined with advanced science to ensure that environmentally friendly, socially and culturally acceptable systems can be introduced to achieve a low carbon environment.’²⁷

A series of clean technologies, combined with new forms of Internet supported manufacturing will most likely be the factors that will offset some of the worst implications of environmental degradation. That means that when combined with solar transmissions, eventual fusion-based nuclear power will have the potential of eliminating a large proportion of present environmental hazards. New forms of transport, some of which will be internet based, will also reduce negative environmental impacts.

Despite these impressive initiatives and energy prospects, at this stage it would seem that there has been little consistent effort by some of the major ‘polluters’ to look to the longer-term. Particulate Matter, for example, is extremely hazardous for respiratory and cardiovascular systems and very common in many urban centres worldwide. Beijing regularly approaches astronomic levels from a health point of view.²⁸ And, while the sources and consequences of such environmental hazards are well known though not always well accepted, progress to date suggests that



²⁷ Low, 2013; See also, Braun, 2013. ‘Rio de Janeiro’s Reforestation Changes Life in the Favelas’, World Bank [blog], 9th September 2013.

²⁸ Edward Wong, ‘On a scale of 0 to 500, Beijing’s air quality tops ‘crazy bad’ at 755’, New York Times. Available: <http://www.nytimes.com/2013/01/13/science/earth/beijing-air-pollution-off-the-charts.html? r=0>. Particle pollution is also known as ‘Particulate Matter’ or simply PM. PM itself is a relatively complex mixture with extremely small particles and liquid droplets that float around in the air. There are two kinds of particle pollution, fine particles and inhalable coarse particles. Fine particles are called PM_{2.5}, because their size is 2.5 micrometers in diameter and smaller. These fine particles can reach the deepest regions of human lungs. And exposure to particles is linked to variety of significant health problems, ranging from aggravated asthma and one in this scale to pre-mature death in people with heart disease. In that sense PM_{2.5} is known as the ‘Invisible Killer’

governments will quite consistently opt for the immediate benefits of economic growth than a longer-term focus on environmental protection. In that sense, densely populated areas will ultimately depend upon scientific and technical transformations that will not force politicians over time to make the tough decisions.

That said, some scientists are predicting – controversially – that failing to come to terms with longer-term threats such as climate change, could lead to an increase in the frequency of civil wars by more than 50%.²⁹ Yet, whatever the controversies surrounding that particular issue, there is general agreement that the environmental impact of climate change will affect at least thousands of cities around the world if current levels of greenhouse gas emissions are not substantially reduced. In the U.S.A. alone, experts estimate that 1,400 urban areas could be submerged by 2100 if global warming continues at its current rate.³⁰

At the same time, urban areas in the foreseeable future will have to face a whole new range of environmental threats. Presently, environmental factors in urban areas compound health hazards, creating significant risks for the urban poor in particular. This may only increase as the urban environmental factors that contribute to health risks intensify with the rise of urbanisation. In addition to well-publicised risks such as urban heat islands³¹, toxic nanomaterials³² and the acidification of the ocean affecting coastal cities³³, some other environmental possibilities may emerge such as biomimetic robots that could become new invasive species, ocean fertilisation and deploying solar shields, demand for biomass needed to make biofuel and experiments to control invasive species using genetically engineered viruses.³⁴

29 The new study is by economists at the University of California, Berkeley, who sought to make sense of a recent explosion of research into the relationship between climate and conflict. But this provocative attempt to quantify the influence of climate on human conflict is itself setting off clashes among researchers who study the issue. "I would take their projections with a huge grain of salt," says Halvard Buhaug of the Peace Research Institute Oslo in Norway. Peter Aldhouse, "Climate change may make civil wars much more common," *New Scientist*, 1 August 2013

30 Benjamin Strauss, 'Rapid accumulation of committed sea-level rise from global warming'. *Proceedings of the National Academy of Sciences USA*, 2013.

31 'Urbanization negatively impacts the environment mainly by the production of pollution, the modification of the physical and chemical properties of the atmosphere, and the covering of the soil surface. Considered to be a cumulative effect of all these impacts is the urban heat island, defined as the rise in temperature of any man-made area, resulting in a well-defined, distinct "warm island" among the "cool sea" lower temperature of the area's nearby natural landscape. For more information, see: www.urbanheatislands.com.

32 R.D. Handy and B.J. Shaw, 'Toxic effects of nano particles: Implications for public health, risk assessment and the public perception of nanotechnology,' in *Health, Risk and Society*, Vol.9,#2 - Special Issue, Taylor and Francis, London, 2007.

33 Casey Danson, 'US Ocean Acidification Affects the Northeast more than other Coasts', *Global Possibilities*, 5th March 2013.

34 Catherin Brahit, "Named: 25 environmental threats of the future," *New Scientist*, 20th March 2008. Biomimetic robots are a class of biologically inspired robots that mimic many of the characteristics of natural species, but often are improvements on those species and more compliant.

Text Box 4: Implications of Environmental Change for Future Urban Humanitarian Action

Anticipating new risks: Meeting the demands of emerging environmental challenges will require far more strategic approaches to identifying environmental hazards than has normally been the case. While environmental crisis drivers such as climate change take a relatively long time to impact upon society, many of the emerging environmental threats outside conventional concerns may emerge quickly and with rapid and indiscriminate impacts. Humanitarian actors will, as a matter of course, need to devote more time to focusing upon new types of environmental crisis drivers, and garnering the opinions and innovations of the science and technology communities to help address them.

Child sensitive risks: Though there is a general assumption that emerging viruses – particularly those for example, that are the unintended by-products of genetic engineering – will have devastating impacts upon all age groups. Certain age groups may be more predisposed to certain types of such viruses than others. Therefore, when it comes to children as well as the elderly, specific preparatory and preventative measures will have to be identified as part of the strategic planning process. It is with this in mind that strategic planning will require a commitment to systematic dialogue, as noted below, with the science and technology communities.

Multi-layered monitoring networks and hubs: Non-governmental organisations can support the efforts of community and urban authorities in the rapid identification of at least some potential environmental threats. By establishing networks of ordinary citizens willing to use subsidised phones to flag potential pollution agents, NGOs can help develop monitoring hubs that can feed into environmental protection systems already in play, or help create them. Such networks could also relate to physical and on-line education and training programmes, in which environmental hazards and monitoring criteria could be discussed.

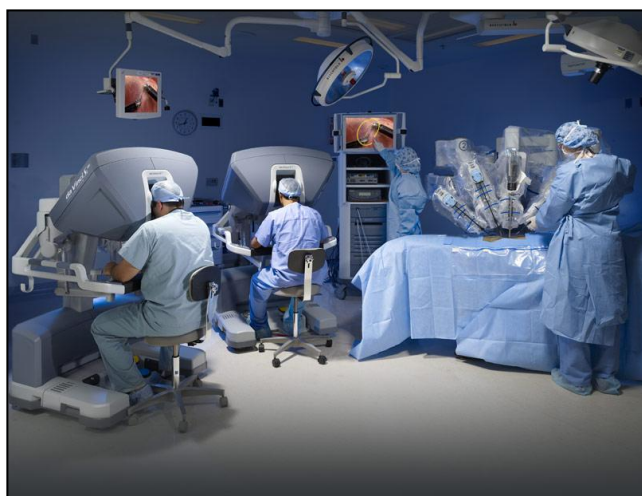
Using creative approaches to share knowledge: When it comes to environmental hazards, Save the Children will need to bridge the gap between environmental science and the knowledge and behaviour of the most vulnerable, using creative approaches to share knowledge between urban communities and relevant physical and social science professionals. This should include the establishment of specific, dedicated initiatives to ensure coordination between environmental scientists, urban planners and families and children.

Health

More than 50% of the world's population now live in urban areas, and urbanisation for many implies 'considerable changes in the ways in which people live, how they earn their livelihoods, the food which they eat, and the wide range of environmental factors to which they are exposed.'³⁵ There is an underlying assumption that urban populations will be healthier than their rural counterparts and that urbanization equates to modernization. However, this is rarely true mostly due to the different types of health threats faced by urban populations, such as pollution and non-communicable disease. Research about the features of urban areas that influence health has been relatively sparse but often indicates increased health hazards.³⁶ As the World Health Organization has observed:

"while cities can bring opportunities, they can also bring challenges for better health. Today's cities and those of tomorrow are facing a triple threat: infectious diseases like HIV/AIDS, TB, pneumonia, diarrhoeal diseases; non-communicable diseases like asthma, heart disease, cancer and diabetes; and violence and injuries, including road traffic injuries".³⁷

The threat of these hazards will intensify in an urban future in which relative socio-economic determinants of health become more complex, health risks become more concentrated and the challenge of meeting higher levels of dependency become more acute.



Urbanisation of any form is expected to exacerbate each of these, creating an upsurge in disease, and marked increase in the case of those illnesses associated with environmental degradation.³⁸ Indeed, industrial air pollution already exceeds WHO safe levels in many urban areas and, in spite of probable advances towards more environmentally friendly technologies and human practice, the environmental impact of the present situation will last for generations. As

such, the OECD estimates that the number of premature deaths from exposure to particulate matter could become the world's biggest environmental cause of death, ultimately surpassing those caused by WASH-related illnesses.³⁹ Environmental effects on health will not be isolated

35 D.R. Phillips (1993). 'Urbanization and human health'. *Parasitology*106, (Suppl): 93-107, 1993.

36 F.K. Judd, Jackson HJ, Komiti A, Murray G, Hodgins G, Fraser C. (2002). 'High prevalence disorders in urban and rural communities', *Aust N Z J Psychiatry*,36, pp:104-113.

37 WHO, 'Urban Health', Health Topics [online]. Available: http://www.who.int/topics/urban_health/en/.

38Campbell-Lendrum, D. Corvalan C (2007). 'Climate change and developing country cities: implications for environmental health and equity'. *Journal of Urban Health*, 84(3), pp: 109-117.

39 OECD (2012). 'Environmental Outlook 2050', Organisation for Economic Co-operation and Development. Available: <http://www.oecd.org/environment/oecdenvironmentaloutlookto2050theconsequencesofinaction.htm>.

to developing urban centres either. Because of their ageing and heavily urbanised populations, OECD countries will experience some of the highest premature death rates from illnesses related to ground-level ozone pollution.⁴⁰

Despite the threat of disease, a series of transformative developments in the health sector offer major promise for helping to mitigate the risks to human vulnerability presented by an urban future, several of which are presented below for consideration:

Privatisation: In combination with a need to attend to worsening urban health inequity and growing demand for healthcare services, the scale of future urban health challenges may drive regulatory reform that increasingly seeks to link public and private sector healthcare service provision. Looking to optimize access and quality, the public sector could increasingly look to private sector organizations for innovation and efficiency, particularly, for instance, in the form of facilitative data collection technologies that empower public healthcare decision-making.⁴¹ This trend is most likely to be the case in the urban context, where the principal barriers to healthcare access will remain economic as opposed to geographic.

ICT and health: Widening access to mobile phones will provide a reliable and low-cost means for patients to receive time-sensitive remote health information, empowering communities to improve health outcomes and providing a real-time forum for health services to gain, share and collaborate on insights into potentially sensitive issues.⁴² Beyond mobile phones, revolutionary web-enabled monitoring techniques ranging from bio-sensors embedded in clothing to fitness and nutrition trackers may provide constant health monitoring capability for both patients and healthcare services. Such innovations are likely to confront certain ethical questions and cultural reservations as they emerge, however their utility may ultimately power widespread transitions from in-clinic to self-diagnosis, and from prescribed to self-prescribed treatment.



Personalised and preventative medicine: Together with technologies including web-connected remote analysis and monitoring, self-diagnosis tools and big data and analytics, a greater understanding of the human genome may generate a healthcare sector that is increasingly predictive, preventative, personalized and participatory.⁴³ Indeed, the mapping of DNA entire sequences is already a reality and their interpretation comes at increasingly low-cost. Genetic treatments are already being delivered to patients in high-income countries and

40 Ozone (O₃) is a colourless, reactive oxidant gas that is a major constituent of atmospheric smog. The main health concern of exposure to ambient ground-level ozone is its effect on the respiratory system, especially on lung function. 41 See, for instance, the incipient m-Health initiative, ChildCount+: www.childcount.org.

42 'Emerging mHealth: Paths for Growth', PricewaterhouseCoopers, London, 2012.

43 Hood, L. (2013). 'Systems biology and P4 medicine: past, present and future'. *RMMJ*,4:(2), e0012. doi:10.5041/RMMJ.10112

could feasibly be provided as development and even humanitarian relief interventions within the next 10 years. More widespread use of this innovation could subsequently usher in an age of preventative medicine that could result in a conceptual shift in the focus of healthcare from one of curing illness, to one which instead promotes wellbeing. It may be that this innovation allows humans to live for anything between 10-20 years longer than today, generating substantial changes in the lifestyle of urban populations and the dynamics underpinning their vulnerability.

Text Box 5: Implications of Health for Future Urban Humanitarian Action

Concentrated communicable diseases and new at-risk populations for non-communicable disease: In addition to the lasting effects of environmental degradation on urban areas, urbanization's social transition points to a future of more concentrated non-communicable disease and a higher scale and frequency of 'everyday crises'. While these diseases may not be new, their scale and impact on everyday vulnerability will demand attention and may result in less acutely reactive health intervention and programming. Indeed, without a concerted effort to help address the determinants behind urban health vulnerability, to adapt to and understand the scale of threat and anticipate the distribution of future disease, humanitarians risk a lack of preparedness for a major threat to urban resilience in the event of a disaster.

Private sector engagement: A trend towards the increasing privatisation of healthcare services would drive a fundamentally revised sector in which service delivery, community health monitoring and the character of healthcare provision are shaped increasingly by private sector innovation and efficiency. If it is to deliver effective humanitarian relief in future urban emergencies, Save the Children must therefore develop stronger relationships with private sector organizations and track private involvement in healthcare across all relevant fields.

Utilise far more effectively ICT health technology: If it is to deliver more effective and more widely impacting interventions, Save the Children will need a detailed understanding of how new developments in ICT health technology fit with its health programming. For instance, private organizations are beginning to collate socially stratified and intra-urban data on health statistics and health determinants. Considerable advances, too, have been made in telemedicine, where virtual technologies are leading to a wide range of care, from monitoring to actual interventions. To understand and develop practical applications for such innovations, Save the Children needs to maintain an open door for new technologies and to create space for developer-humanitarian dialogue and interaction.

Integrating health and livelihoods. While technological innovation could help alleviate certain financial barriers to access, the ancillary costs of urban life will continue to make healthcare provision to all a substantial challenge. If Save the Children is to provide sustainable health outcomes as part of its intervention programming in urban areas, there is a need to further build on efforts to integrate health and livelihood programming. This is particularly important for young people in urban areas given they tend to experience higher rates of unemployment and rely heavily on poorly compensated informal livelihoods.

Water

Water, like air, is ubiquitous. Its importance directly and indirectly is at the core of human life and livelihoods. And, in that context, analysis by the International Food Policy Research Institute (IFPRI) is more than a cause for concern when it notes that that 4.8 billion people – almost 68% of the world’s population – and approximately half of global grain production will be at risk due to water stress by 2050 if greater attention is not given to ways of managing this vital commodity more effectively.⁴⁴ It is estimated that more than one billion urban residents will face serious water shortages by 2050.⁴⁵

The implications of such water statistics upon urban areas are telling for reasons that are well known. Firstly, the issue of water cannot be taken in isolation, focused solely upon threats and solutions in urban areas. In other words, dealing with the implications of water volume and purity is an exercise that goes well beyond the city limits. It has to be seen in terms of its patterns of movement from low density to high-density population areas, serving as a transmitter of benefits as well as hazards - nutrients as well as disease. Water, too, is a resource essential for industry as well as for agriculture, innovation, sanitation, energy, transportation and human survival. If urban environments increasingly embrace their own modes of food production, including vertical farming (see below), the demand for water resources in areas of high urban density will likely increase even further..

Technologies are emerging that can counter some aspects of water threats. So-called ‘fog-harvesting,’ for example, may increasingly make up for short rainfalls; intensive hydroponics may reduce the amount of water consumed for agricultural purposes, subsurface dams may be able to create artificial aquifers, scientific measures to create water artificially are in the offing and inexpensive techniques for desalinisation are but some of the myriad innovations that may eventually address future water crises.

Such technologies, however, will have to be compatible with the societies and social conditions in which they will be applied; and, in that context an appreciation of the interface between technological innovation and governance would seem to be fundamental to the future of water in an urban context, particularly when it comes to *slumscapes*.



44 For more statistics on this, see: <http://www.ifpri.org/>.

45 AFP (2011). ‘Billion-plus people to lack water in 2050’, The Independent. Available: <http://www.independent.co.uk/environment/billionplus-people-to-lack-water-in-2050-study-2255847.html>. Retrieved 19th September 2013.

Text Box 6: Implications of Water for Future Urban Humanitarian Action

With that in mind, humanitarian workers may well have to accept that the existential importance of water may add to the complexities of their operating environments even more in the future than today.

A Most Likely Paradox: It may be anathema to many humanitarian workers, but they will have to accommodate a very fundamental paradox, namely, one in which the importance of water security may well threaten legitimate governance systems that are designed to ensure security. In villageised and slumscaped urban settings, economic incentives and political dynamics will shift more rapidly, be highly localized and are therefore likely to become ever more uncertain and opaque to the outsider. As a result, those who are in need and those who are in control will be less predictable than traditionally stable populations and it will become increasingly likely that the high value of water will make it a regular source of income for criminal elements. Humanitarian workers may have to accept the uncomfortable reality that they will need to negotiate with a diverse set of “actors” to ensure water supplies for those who find it difficult to gain access in this context – perhaps even engaging in alternative models for provision which existing dynamics can profit from.

A Listening Project: As in all aspects of humanitarian engagement, the key to effective response and support lies in the listening. The challenge for the humanitarian worker, all too aware of a variety of emerging high tech solutions, will be to recognise those water systems that reflect local knowledge and the fluid nature of migration in future slumscapes. With that in mind, water systems will have to be low cost, highly portable and able to deal with increasingly mobile households. They must be modular, so that even a single new household can be added should additional resources become available and without the need to redesign the entire system. And, as is increasingly evident, sophisticated engineering and automated machines can lead to the loss of livelihoods by families that might need more traditional approaches to maintain an income.⁴⁶

Anticipating crises: Water is a major transmitter of disease. Those diseases that are water-borne, water-washed and water-based are well known to health workers.⁴⁷ Those with humanitarian roles and responsibilities will most likely have to prepare themselves to deal with new forms of water-transmitted health issues, particularly in dense urban settings. These would include new forms of toxic waste, the related impact of climate change on water-borne diseases and the deliberate release of pathogens or toxic agents into water intended for human consumption.⁴⁸

46 Op cit, #6, George Bugliarello, p.18

47 Water-borne diseases include hepatitis, rotaviraldiarrhea, cholera; water-washed include scabies, leprosy and yaws; water-based includes leptosprosis, legionellosis, tularaemia.

48 R. Stanwell-Smith (2012). ‘The Hygeine Hypothesis and its Implications for Home Hygiene, Lifestyle and Public Health’, International Scientific Forum on Home Hygiene.

A Special Case for Coastal Cities and Towns: As noted earlier in *Environmental Change*, thousands of urban areas around the world will be directly threatened by rising sea levels. It is highly probable that the impact of such sea level rises will in the first instance affect sea-based economic drivers concerned with ports and fishing, but its humanitarian impact will include extensive surges of floods that will affect houses and shelters, create severe pollution and related diseases from collapsed sanitation systems and threaten even modular water systems. The humanitarian response will most likely take place within slumscales, spaces that will bring a growing number of poor and highly disparate communities together within countries and across national borders.

Micro-infrastructures and Local Relationships: The best way to design service delivery models in the future will be not to design the system at all. Put another way, the tactical opportunities and constraints most *slumscale* environments will present suggest that the systems that will be required will need to be self-deployed, in an emergent fashion, bit by bit, by those with intimate knowledge of where deployment opportunities lie and what can be done to exploit them. Local relationships and local knowledge will be at the core of modular, self-assembling systems which users themselves design and maintain. Like so much in the urban environment of the future, large-scale infrastructure projects will be replaced by self-deployed and self-assembling systems that will bring a growing number of poor and highly disparate communities together within countries and across national borders.

Food Security and Nutrition



Pressure from population growth and climate change will mean that unless 50% - 100% more food is created and more efficient ways to distribute it are found, the 21st century may be marked by food so expensive that it could provoke mass migration and conflict.⁴⁹ This is no less the case in urban areas, where food security is increasingly influenced by events and factors that are geographically distant from, yet strongly connected to urban centres through the processes and flows that define the urban environment, and where the number of slum-

dwellers living below relative bread lines is set to grow out to 2020.⁵⁰ Indeed, given their distance from traditional sources of food production in rural areas, establishing better integrated infrastructure, transportation, supply chains and markets will be just a few of the critical issues involved in tackling urban-specific food challenges.

Issues of food security and nutrition are also closely related to cultural norms, changing dietary habits and technologies. Many urban inhabitants will witness rising incomes over time and as such, are likely to demand a more diversified diet, consuming greater quantities of meat, dairy and high-value, often processed foods. As such, future urban lifestyles are likely to be associated with increasingly poor diets, with sugar, salt, fat, alcohol and tobacco consumption of major concern for many environmentalists and nutritionists.

In the future, however, new technologies arising out of stem cell research may foreseeably help reduce both environmental and nutritional damage with artificially produced 'meat'. There is also great potential in the adaptation of bacteria, viruses and fungi to increase crop yields while also reducing demand for pesticides, fertilizers through selective breeding or genetic engineering.⁵¹ Food may even one day conceivably be 'printed' in the household, with the ingredients' shelf life lasting a generation.⁵² In other words, while seeming so predictable and unchanging, urban food and nutrition are subject to transformative drivers of potentially enormous consequence.

49 Fraser, E. & Rimas, A., "How to Feed Nine Billion", The Walrus, December 2012.

50 UN, "Slum Population Projection 1990-2020", Human Settlements Programme. Available:

<http://ww2.unhabitat.org/programmes/guo/documents/Table4.pdf>

51 'Microbes "Cheaper, Fairer" than GM', Jan Pietrowski, SciDevNet [online], 30th September 2013. Available:

<http://www.scidev.net/global/gm/news/microbes-cheaper-fairer-for-boosting-yields-than-gm.html>

52 '3D Printing: Food in Space', NASA, 2013. Available:

http://www.nasa.gov/directorates/spacetech/home/feature_3d_food.html

Text Box 7: Implications of Food Security and Nutrition for Future Urban Humanitarian Action

Urban agriculture: While agriculture in urban environments will not alone offset potential food insecurity, the Food and Agriculture Organisation estimates that almost a decade ago, in 2005, food available to over 700 million urban dwellers already came from produce grown in urban and semi-urban areas. Urban agriculture involves using small plots such as vacant lots, gardens or roof tops in the city for growing crops and even for raising small livestock or milk cows. In the future, such production will be significantly increased by a variety of innovations, including vertical farms, many stories high, that will be situated in the heart of the world's urban centres. If successfully implemented, they might increase the promise of urban renewal, sustainable production of a safe and varied food supply (year-round crop production), and the eventual repair of ecosystems that have been sacrificed for horizontal farming.⁵³

Enhanced urban capacities: New agricultural techniques will enhance the feasibility of using more and more “green spaces” within urban areas for agricultural production. Transformed seeds and seed protection is but one. Others include robotics that will result in precision agriculture for 24 hours per day, seven days a week, supported in no small part by nanotechnological protectors. Satellite screening will ensure super speed identification of plant needs, including water and growth patterns as well as potential weeds and diseases. In an urban context, satellite as well as nanotechnology will also be available to counter those tempted to steal produce.

Changing sources of foods: The demand for meat products in a number of emerging economies continues to cause severe environmental and food security problems (e.g., approximately a third of global cropland is used for the production of animal feed).⁵⁴ In the foreseeable future, a variety of innovations and innovative practices may well result in changes in such demands, and alternative measures might increasingly comprise staple diets. One innovative practice may well be increased pressure for promoting fish as a staple. Beyond this possibility are a range of potential innovations that may well lead to different diets for many. Insects, for example, may well become a far more accepted source of nutrition, and could be developed in urban as well as rural areas.

Nutrition for life: For those concerned with the effects of such potential food and nutritional changes upon potentially vulnerable people in urban settings, there are at least three issues that should be considered:

⁵³ See: www.verticalfarm.com

⁵⁴ Wirsenius, Azar & Berndes, 'How much land is needed for global food production under scenarios of dietary changes and livestock productivity increases in 2030', *Agricultural Systems*, 103 (9), 2010, pp. 621-638

- ***Small plot usage and training:*** While a portion of urban dwellers may have come from agricultural backgrounds, even they might not be familiar with the technologies, e.g., advanced hydroponics, “miracle seeds, and general practices associated with urban agriculture. This could be an important educational feature not only for adults, but also for children and youth.
- ***Monitoring systems:*** Chip implantation technology that may well be an increasing feature for monitoring the well-being of the young from birth could prove to be an important factor in monitoring nutrition status. This is a feature that health and humanitarian workers will want to consider in preparing for the future.
- ***Early warning systems:*** Of critical importance in the increasing ebbs and flows of urban life will be the capacity to monitor sources and destination of foodstuffs. Such monitoring methods which will have to be integrated into the sorts of systems recommended above⁵⁵ and will depend upon effective working relations with local authorities.

55 See Information and Communications Technology above, also SCADA and PMU.

Economic evolutions and revolutions

As noted above in [Information and communications technologies](#), ICT will transform not only manufacturing processes, but also the very concept of financial and investment trading. In other words, as one looks to urban futures, the revolution in economic functions and processes foretells of changes that will alter the purpose and physical structures of urban areas. Several urban theorists ascribe to the view that ‘urbanisation is primarily shaped by the accumulation of private capital...with economic capital concentrating in particular cities.’⁵⁶ A growing number though believe that ICT will fundamentally change the effects of capital from physical to virtual. ‘With broadband connections, cloud computing and other technology, many interaction jobs can be conducted ‘anytime, anywhere’—from the road, from a facility in a lower-cost city, or from an employee’s home.’⁵⁷ Hence, the emphasis on traditional urban infrastructures as cites and end points for economic and financial activities may be a thing of the past.

The assumptions about how economic revolutions and evolutions and their concomitant links with finance will impact upon different physical and virtual structures remain in contention. Equally so are the assumptions about the different types of economies, e.g., developed versus emerging, or different types of employees, e.g., low-skilled versus high-skilled, and their urban consequences. The one thing that does seem plausible when it comes to anticipatable macro-economic transformations is that very little will be certain. Nevertheless, certain global economic adaptations are on the horizon which will have important implications for urban areas, several of which are detailed below for consideration:

Mass Customisation and Manufacturing: Already “3-D printers” have produced a vast range of products, including mobile phones, a gun, machine parts and reportedly a replica motorcycle. In wealthier countries, 3-D printing will result in new products and materials being uniquely built – a form of mass customization – to a specification from the Internet and on demand by a machine run by a sophisticated, trained operator. In poorer countries, 3D printing would allow people to make whatever tool or item they require from open-source templates;

Economic and Financial Impacts:

The much-vaunted “bit-coins” is a precursor of a fundamentally changing approach to economics and finance. The prospect of an economy that is not based upon tangible assets, but is dominated instead by virtual funding and financing – driven by data systems



⁵⁶ Expert interviews.

⁵⁷ James Manyika, Susan Lund, Byron Auguste and Sreenivas Ramaswamy, *The Future of Work in Advanced Economies*, McKinsey Global Institute, March 2012

that interconnect and interpret trillions of pieces of information – will force changes in how and who has access to resources. Crowdsourcing is the beginning of a third transformational process affecting the urban rationale. The first, manufacturing, as the *raison d'être* for many cities around the world, is increasingly being replaced by a financial rationale, ie, cities as the core source of funding and investment. This, in the foreseeable future, will also transmogrify, resulting in what is termed, above, under the built environment as **villageisation**;

The emerging job market: Urban job markets will reflect various aspects of economic change. In a host of ways workers will have to adjust to the ubiquitous nature of robotics and artificial intelligence. In that sense, the two will not replace the need for workers in manufacturing and agricultural production, but humans will have to work alongside robots that will have the expertise, capacities and durability that human workers may not; and, as recently noted, a growing number of decisions concerning economic transactions and directions as well as many other concerns will be made through artificial intelligence – a form of intelligence that is alien and yet to have been encountered.⁵⁸

Text Box 8: Implications of Food Security and Nutrition for Future Urban Humanitarian Action

Non-employment: While structural unemployment is a factor that pervades the economic scene today, non-employment will be a related but different type of phenomenon. Non-employment does not presume that large segments of a possible working population will not be employed because of the absence of opportunities caused by economic limitations. Rather, non-employment presumes that many portions of society will not be required to work in what today is regarded as employment in a conventional sense. Those who are “non-employed” will have roles and responsibilities such as carers and community support and could be supported by urban authorities not to work.

It is quite likely that despite official support for such new categories as the “non-employed” there will nevertheless be large numbers of people who live in relative poverty and who will for a variety of physical, social and psychological reasons, slip through officially supported support nets. These urban poor will reflect a complex range of factors, a large portion of which will be psychological in nature. With this in mind, Save the Children and others will have to look increasingly at the ways that those families of the non-employed as well as those of the low-paid will be able to supported psychologically, perhaps even more than physically;

New Dimensions of Inequality: While it is quite likely that due to paradigmatic changes in the concept of employment, non-employment will become more and more evident and acceptable. Yet, the consequences of this facet of urban existence will not eliminate the need for workers at various levels of the economy. Urban agriculture and infrastructure maintenance, for example, will still require conventional employment; and, because of an abundance of potential labour, social and economic inequalities may well intensify. That said, it is quite likely that there will be much more upward as well as downward mobility than has been the case in recent history. This may well be the result of the momentum of ICT where a variety of virtual opportunities can be translated into wealth or lead to poverty. With that in mind, humanitarian

⁵⁸ Douglas Heaven, 'Higher State of Mind', New Scientist, #2929, 10 August 2013, p.35

actors will have to take into account that the sources of vulnerability and those who may be affected will be less predictable and prone to different dynamics than is the case today;

Consequences of Villageisation and Slumscapes: Probably more than ever before, jobs and job opportunities will witness considerable movements of peoples across urban landscapes, often between different areas of density. This flow, perhaps paradoxically, will be supported by ICT, which will serve as instant sources of job announcements and job applications, interviews and security checks. This flow will principally relate to those at the lower end of the income scale, and will create considerable family disruption. For the humanitarian worker, this flow will add to the difficulties of identifying and monitoring those in need, but conversely this may be countered by the tracking potential of virtual technologies;

Forecasters suggest that the numbers of people are being replaced by a smaller number of people using machines, e.g. robotic technologies; and, while this may prove to be a compelling facet of urban life in the future, the implications for those in the humanitarian sector are critical and indeed very 'human.'

Education

Failure to prioritize education as part of humanitarian response can render entire generations uneducated, disadvantaged and unprepared to contribute to community recovery.⁵⁹ Indeed, as Save the Children has argued and as a growing body of research on education in post-disaster contexts has shown, education can provide structure and stability for children after a disaster and serve as a platform for further humanitarian interventions, including health, water and sanitation.⁶⁰ Education also sustains a progressive link from humanitarian response, through to recovery and rehabilitation, and on into development processes. This is no less true in the urban context, where significant and multi-factorial inequalities in impoverished areas continue to undermine young peoples' access to education and their ability to effectively deploy their learning for livelihoods and political empowerment.

However, in an urban future in which the delivery and practice of education is increasingly revolutionized by technological innovation, many of these issues may seem less imposing. The challenge for Save the Children will be to adapt its approach to urban education services in humanitarian contexts so that it capitalises on the evolution of education services. In particular, Save the Children may wish to consider the following trends shaping the future of education:



Connectivity: Internet connectivity is rising and is increasingly an expectation of urban dwellers in middle- and lower-income countries. Certainly, practical barriers will not be wholly eradicated and Internet access will remain contingent upon the availability of devices and the quality of infrastructure. However, new technologies for delivering broadband service, including those that increase capacity for mobile broadband, are being increasingly explored as an alternative for 'leapfrogging'⁶¹ expensive fibre optic cables. Such connectivity is expected to facilitate increasingly social and networked project-based learning, thereby challenging traditional conceptualizations of schools, lessons and teaching. While this has great potential to overcome current barriers to education in urban settings, such as a lack of residency status,⁶² it also gives rise to new challenges. For instance, young people will increasingly

59 UNHCR (2001) 'Learning for a Future: Refugee Education in Developing Countries'.

60 Save the Children (2012) 'Education: An Essential Component of a Humanitarian Response', Global Education Cluster Unit, Geneva, Switzerland.

61 Much in the same way that many developing countries have jumped directly to mobile without ever achieving widespread landline access, it may be the case that internet connectivity is delivered to urban citizens without building costly infrastructure present in the developed world.

62 Indrakesuma, T. & Loh, J. (2013) 'Educating the poor: past, present, future'. In Asian Trends Monitoring Bulletin, Bulletin 20: Educating the Urban Poor. Lee Kuan Yew School of Public Policy, Singapore, p.7.

need to develop skills to interpret the vast array of information to which they will have access.

Disintermediation: Having provided free, online and on-demand distance learning modules and assessment tools to millions of unique users, disruptive innovations like the Khan Academy⁶³ and Knewton⁶⁴ are increasingly proving their utility to teachers and learners. These organizations are beginning to leverage the information from their user databases including student progress, practice and performance data in order to build task and assessment algorithms that will enable their systems to ‘learn’ which educational experiences work for individual users. As such data becomes more widely available and AI enables educational experiences to become more personalized, perhaps even with algorithmically generated lessons designed for individual students, it may increasingly bring about a process of **disintermediation**, whereby the role of the teacher becomes less of an instructor and rather more a facilitator of an individualised learning environment.

Virtualisation: The current prevailing paradigm of a teacher in a physical setting delivering unidirectional instruction is set to undergo further change over time as processes of digitization and virtualization disperse IT to every facet of the learning environment. Disembodied classrooms, where learning, discussion and assessment don’t rely on physical location are already enabled by video lessons, education app stores and the digitization of course materials. In future, new virtual technologies like immersive virtual reality environments could enable students to increasingly engage one another in peer to peer learning environments perhaps ultimately coalescing online to discuss, learn and solve problems.

Text Box 9: Implications of Education for Future Urban Humanitarian Action

Re-examine how education delivers benefits: Humanitarian organisations are likely to need to contend with educational programming that is increasingly personalised and virtual. As such, they may need to invest more heavily in personalised ICT devices for distribution in recovery contexts as opposed to delivering school building projects and other forms of traditional in-kind assistance. Beliefs that physical spaces for education are still important often rest on the assumption that in-person contact is needed for appropriate learning and socialisation. Yet, for a new generation of young people, who have been raised on screens, this assumption may no longer be true. Save the Children needs to continually re-examine new options for education delivery and tailor programming with current, not older, generations’ experience of ICT in mind.

Engage new educational authorities: Urban communities may require assistance to adapt to a future learning context in which they will need to become increasingly adept at interpreting and utilizing the opportunity of universal access to knowledge and life-long learning. For instance, in an urban post-disaster setting, young people may have already taken decisions on which sources of information they deem authoritative, and may not respond well to traditional educational programming.

63 Organization web page: <https://www.khanacademy.org/about>

64 Organization web page: <http://www.knewton.com/>

Build network resilience: A virtualised educational environment may require new needs assessments given access to education may become less contingent on the number of children in physical attendance at a school and rather more so upon the resilience of networks in the event of an urban disaster.

Some more equal than others: In order to deliver meaningful education that provides real livelihood opportunities, humanitarian organisations may increasingly need to acknowledge that education may not be an equalizer for those coming from more challenging socio-economic backgrounds.⁶⁵ Connections between education and livelihoods will therefore require constant re-examination by humanitarian organizations. Save the Children may need to pay heightened attention to future trends in labour markets in order to help ensure that large numbers of educated people do not become and remain unemployed, and subsequently contribute to a general apathy about the economic value of education.

⁶⁵ Indrakesuma, T. & Loh, J. (2013). 'Educating the poor: past, present, future'. In Asian Trends Monitoring Bulletin, Bulletin 20: Educating the Urban Poor. Lee Kuan Yew School of Public Policy, Singapore, p.7.

Governance and Informal Sectors

The enhanced presence and influence of local and national authorities is a well-noted feature of urban areas that distinguishes it from ‘typical’ rural humanitarian response contexts.⁶⁶ This presents a level of complexity that can be overwhelming for humanitarian actors and indicates why many humanitarian and urban experts interviewed for this project felt that, if a humanitarian NGO’s first experience in an urban area occurs *after* a disaster, then ‘it’s already too late’: effective response and recovery in an urban setting requires a longer-term presence and familiarity with the relevant governance and power structures.

We know that governance systems are important now—but what do changes in these systems and in how power is experienced, shared and claimed mean for future vulnerability and disaster contexts in urban settings? While this is a broad area, and one that will find much variation across different urban contexts, we can identify three themes around



the future of urban governance that Save the Children will need to monitor in order to adapt its approach to changing political circumstances.

New accountabilities/relocation of power: Digital capabilities for a growing number of people around the world will be their first experience of empowerment. They will be heard, counted and able to influence well beyond what normal assumptions about the impact of non-virtual economic and social status would assume.⁶⁷ There are at the same time inherent dangers in such empowerment. Social networking, for example, will increasingly pit formal authorities against its people in new types of struggles; “noise,” or intensely distorting and conflicting messaging, will also prove to be a challenge to be resolved in the age of digital empowerment. As seen in Brazil in mid-2013, demonstrations emerging from urban discontent can quickly scale up through social media and ICT.

⁶⁶ALNAP 2012; Grunewald 2011; IIED 2012.

⁶⁷ Note, for example, Aadhaar in India, which intends to provide every Indian citizen with a card that includes a unique 12 digit identity and computer chip that contains a person’s biometric data. On the one hand this is intended to solve the problems of inefficiency and fraud, and on the other to help citizens who have been excluded from government institutions and aid networks.

Fracturing vs. homogenisation: Urban governance at the city or city-regional level will be dictated through two conflicting processes: a process of fracturing and splitting of governance units, and a push towards homogenisation or centralisation of governance at the city level. Triggers for these processes are demographic shifts and the level of capacity and resources at city level to deal with urban development and risk reduction. If greater resources, including international aid, are changed to bypass national governments and are directed towards city-regions, one can imagine a strengthening of city political institutions and a centralisation of disaster risk reduction at the city level. This may have some surprising implications, as understandings of risk and vulnerability become ever more a form of ‘governance,’ themselves, in which the techniques of risk management “work to govern the uncertain future of cities”,⁶⁸ producing compliance but also resistance.

In terms of the other side of the spectrum, the fracturing of urban governance, there may be an increase in “branding”: the creation of new identities and attendant publicity campaigns for districts within cities as means for further development and economic competition with other neighbourhoods within the same city.⁶⁹ Depending on the trajectory of socio-economic inequality in urban areas, the fracturing of governance may be accompanied by an increase in urban conflict and competition between districts, a dynamic in which humanitarian actors may find themselves enmeshed as they select sites for their interventions.

Continuing rise of informal approaches to basic services: Governance systems can be formal or informal. The former will probably have the greatest impact and influence over the lives of those deemed to be prosperous, with all the urban benefits that various degrees of wealth suggest. For such formal systems, authority will nevertheless be quite dispersed. “The town hall” concept of governance will be less centred physically, and will instead have to reflect and respond to the interests of urban areas that are geographically far apart. In that sense they will reflect the form of dispersed and increasingly virtual economies that will be a growing phenomenon over the next two decades.

Political entrepreneurialism: Formal governance systems will also have to contend with fluctuating populations in fluid *slumscapes* and peri-urban areas, making any form of consistent and systematic monitoring difficult. They will have to deal with a paradox; for on the one hand, formal urban governance structures will be able to monitor the movement and potential needs of populations at an extraordinary level of detail, but on the other they may not have the capacities or political motivation to provide physical support.

In no small part, this explains why what is described as the informal sector might have increasing relevance in urban areas. That informality has been described by some as ‘political entrepreneurialism’⁷⁰: the phenomena of individuals or singular small groups acting as ‘entrepreneurs’ in their urban environments to fuel economic development, create social

68 Zeiderman 2012.

69 Eshuis & Edwards 2012.

70 McFarlane 2013.

capital, or manage public goods. In the political context, entrepreneurialism will influence the future of urban governance in two main ways.

First, the emergence of entrepreneurs themselves can complicate a local urban context because they act as influential political actors that have acquired power through their own initiative and “soft” public support rather than through formal political processes. That might make them hard to identify and their scope of influence difficult to assess. Second, the narrative of entrepreneurialism can result in a general inclination among large swathes of the public to ignore standard political systems and approaches for informal leaders who take charge of basic service provision without formal accountability mechanisms to support them.

This informal sector, difficult to define yet omnipresent in the lives of the urban poor, will be crucial to understanding vulnerability and identifying appropriate ways of to strengthen societies in the aftermath of a disaster in the future. Informal economies and services often account for most economic development amongst the urban poor, and their webs of systems and relationships can provide strength and support in the immediate aftermath of a disaster. But the informal sector, in particular informal settlements, can also present a number of risks through corruption and illegality. The fluid nature of the informal sector can make it challenging for a humanitarian organisation to identify which aspects of informal systems and practices are beneficial and which exacerbate certain risks.

Humanitarians will need to understand the role of not only the formal sectors of urban governance, but the consequence of political entrepreneurs and the informal sector that will increasingly fill governance vacuums. There may be multiple ‘resiliencies’ amongst which humanitarians will need to select priorities, making humanitarianism an increasingly political act in future urban environments.⁷¹

Text Box 10: Implications of Governance for Future Urban Humanitarian Action

Formalising systems, including property, may not be the best way to reduce vulnerability: Many humanitarians tend to see formalised systems as the primary means for building resilience and reducing vulnerability to disaster, as reflected in the rights-based approach to disaster risk reduction. However, several experts with familiarity of issues facing the urban poor felt that formalisation may not be a realistic approach, nor an approach most responsive to the needs and interests of the urban poor. The reality is that not much is known about informal property markets and how they support informal economies, making it difficult to take informed decisions about what should be done with a population if their informal settlements are wiped away by a natural disaster.⁷²

A geographical approach may not be ideal, given the fluidity of the informal sector and its increasing importance: Much of the literature on adjusting practices to fit present urban

⁷¹ Tyler & Moench 2012.

⁷² Mooya and Cloete 2007.

environments refers to the challenge of identifying which populations and needs a humanitarian organisation will seek to respond to in an urban area that features high density and thus high demand for assistance. One suggestion that is frequently offered is to limit scale by selecting a geographical region or area. However, most of the dynamics identified in this report, especially those pertaining to the informal sector, indicate that humanitarians who develop a geographical-based approach to the urban may find this approach outdated very quickly, as spatial factors decrease in importance in comparison to processes and practices that constitute vulnerability across a wide spatial area. Instead, Save the Children should invest in research to build a “topology of the urban poor whose social relations criss-cross an intricate set of connections and flows stretching across multiple physical spaces”¹ and develop an urban response strategy around that topology. This should include special attention to remittance flows and their impact on vulnerability and resilience across the urban-rural spectrum.

Identify the relevant power brokers: As mentioned elsewhere in this Report, the power brokers of the informal sector will serve as crucial partners in preparedness, recovery and response. Currently, relationships between humanitarian INGOs and informal power brokers such as slumdweller’s associations are perceived to be weak. Save the Children should seek to reach out to slumdweller’s associations and similar groups, including women’s credit associations, as primary partners in addressing disaster vulnerability amongst the urban poor.

Different concepts of wealth: Remittance flows are a significant part of the informal economy and serve to link urban and rural development processes. Increases in remittances and new forms of banking (see ‘Economic Development’) can lead to different conceptions of wealth, and also different understandings of vulnerability: those who have more wealth invested in property may face more significant risks than those living in informal settlements whose wealth lies primarily in e-commerce.

Increased exposure to toxicity: A key service of the informal sector in low- and middle-income countries is the recycling of old technologies and equipment. As this service is unregulated, it may lead to increased exposure to toxins and an inappropriate disposal of scrap metal and chemicals that can lead to compounded risks in the context of floods or earthquakes. This risk increases as the urban poor continue to engage in ‘leapfrogging’, moving quickly to advanced technologies that do not rely on expensive infrastructure, such as mobile phones.

Security

Crime and violence are commonly understood as both a cause and consequence of deprivation and instability,⁷³ and it is likely that the scale and nature of future urban security issues will continue to reflect future trends in urban socio-economic inequality. Indeed common urban problems of poverty, social exclusion, weak state enforcement of law and order and a lack of trust between community and municipal authorities have already given rise to a uniquely urban 'other situation of violence', perpetrated by armed criminal gangs and broadly equivalent outright warfare. New sources of urban deprivation and instability may foreseeably also give rise to new conceptions of insecurity. For instance, it is not unrealistic to consider that new forms of crime and violence may emerge from horizon urban issues of resource scarcity, or the complex layering of distinct cultures and individual need.

And yet while traditional drivers may give rise to new security issues for the urban context, new technologies could go further, even reframing security issues as increasingly virtual. As gateways to serious physical world crimes are closed by more effective policing and predictive law enforcement,⁷⁴ it may be that cybercrime becomes the major threat to 21st century urban security, giving rise to new types of crime, victim and criminal.



Other situations of violence:⁷⁵ The urban environment is giving rise to new and uniquely urban crises for which there is no established humanitarian response. Indeed, many of today's cities, particularly those growing rapidly, experience a convergence of systemic risks which if inadequately addressed, threaten destabilizing levels of violence.⁷⁶ Among these new crises is the alarming frequency with which state authorities are increasingly forced to confront forms of urban violence perpetrated by armed non-state actors like criminal gangs, typically in densely populated informal slum environments.⁷⁷ Moreover, the crime committed by such groups is often invisible, under-reported and includes non-lethal violence such as forced displacement, sexual violence and forms of social control. Where such violence is prevalent, citizen-led responses including private security, neighbourhood self-protection groups and in some cases,

73 Kessides (2005) 'The Urban Transition in Sub-Saharan Africa: Implications for Economic Growth in Africa Region', World Bank Working Paper Series, No. 97, Washington DC.

74 'Where have all the burglars gone?' and 'Don't even think about It', *The Economist*, July 20th - July 26th, pp. 21-27.

75 For more information on 'Other Situations of Violence', please see www.hasow.org.

76 Kilcullen, D. (2012) 'The City as a System: Future Conflict and Urban Resilience', *The Fletcher Forum of World Affairs*, 26(2), pp. 19-39.

77 Muggah, R. & Savage, K. (2012) 'Urban Violence and Humanitarian Action: Engaging the Fragile City', *The Journal of Humanitarian Assistance* [online]. Retrieved 31/07/2013. Available: <http://sites.tufts.edu/jha/archives/1524>

vigilantes may increasingly replace the law and authority of government agencies, potentially even serving as alternative forms of governance and community security.⁷⁸

New urban insecurities: That which is conceived of as either security or insecurity today may not be equally so conceived in an urban future. For instance, countervailing trends in supply and demand of natural resources could lead to their careful control by authorities, perhaps even by criminal gangs, as suggested in *Water*. Similarly, new technologies will consistently give rise to new ethical questions that will shape the laws by which virtual lives are lived and linked to the physical world. For instance, DDoS⁷⁹ attacks enacted as a form of political protest are presently criminalized in the US under the Federal Computer Fraud and Abuse Act. However given such 'hactivism' is arguably equivalent to repeatedly hitting the refresh button on a webpage, how different may future cybercrime be regarded in an urban future in which public dissent increasingly congregates and expresses itself online?

Cybercrime: In combination with its potential high profitability and the ease with which cybercriminals are able to evade detection and prosecution, wider online connectivity is highly likely to increase the frequency and scale of cybercrime. This will create new offenders and expose new victims in areas of the world where internet access was previously limited. Major risks and threats to data, assets and transactions, including that critical to infrastructure, economy, government and media are continually evolving, and typical approaches to cyber security are already failing to keep pace with the rate of technological innovation and system uptake.⁸⁰ The growing popularity of cloud computing and its anticipated critical importance to future systems will almost certainly present additional risks to the urban environment, particularly as it further stretches the boundaries of information sharing well beyond the readily visible. Uncoupling crime from its tangible human impact, cybercrime may fundamentally change the ways in which urban dwellers conceive of their crime, their place in society and the way agencies set about preventing their involvement and aiding their rehabilitation.

78 Hove, M. et al. (2013) 'The Urban Crisis in Sub-Saharan Africa: A Threat to Human Security and Sustainable Development', International Journal of Security and Development, 2(1), DOI: <http://dx.doi.org/10.5334/sta.ap>.

79 A Distributed Denial of Service attack (DDoS) floods a web site's server with traffic from a network of sometimes thousands of individual computers, making it incapable of serving legitimate traffic.

80 PriceWaterhouseCoopers (2013) 'Key Findings from the 2013 US State of Cybercrime Survey', PwC; 'Tech Trends Increase Cybercrime Threat', Financial Times, 24th February 2013.

Text Box 12: Implications of Security for Future Urban Humanitarian Action

Operating in unfamiliar states of conflict: Entry into the urban environment will take humanitarian agencies outside of the theatres of violence to which they have become accustomed. If the hallmarks of traditional warfare are present in “other situations of violence” yet no conventions, rules or norms apply, what are the appropriate operational approaches to humanitarian intervention? How do humanitarians adapt to a context in which states/municipalities may be the ultimate authority, yet lack capacity for effective law and order? Moreover, if humanitarian agencies are to continue to respond to crises related to urban violence, they are likely to need to deliver more integrated and long-term approaches to addressing the socio-economic inequalities that lie at the root of urban problems.

Dealing with new actors in insecurity: When the perpetrators of violence lack unity, coherent political motives and fewer reasons to engage in dialogue, humanitarian organizations will face serious challenges in delivering effective programming in areas of urban insecurity. Humanitarians will need to negotiate their own security and prevent young people becoming involved in violent crime. However, this will almost certainly require a need to develop relationships with complex and overlapping communities, including law enforcement and disparate and potentially controversial actors like criminal gangs. Such new forms of engagement with security issues are likely to pose important ethical questions of appropriate humanitarian action.

Monitoring the impact of virtual crime: Although less strikingly violent and causing more indirect effects in the physical world, an increase in virtual crime will nevertheless force urban communities to confront substantial vulnerabilities. Many of the weakest links in the cyber security chain will be end users in urban environments with a growing reliance on the web and little understanding of how they might protect themselves from increasingly cunning and invasive cyber-attacks. Humanitarian organizations like Save the Children may therefore need to adapt new metrics for interpreting the human impact of virtual crime on communities and children, and engage in programming which aids self-protection from cybercrime.

Section II: Tools for a futures urban strategy

Section I highlighted the kinds of complexities and uncertainties that Save the Children may face in future urban settings. The overarching question posed by these plausible and possible urban futures is: what can Save the Children do strategically to ensure that it is well-equipped to adapt to these complexities and thrive in uncertain environments? Based on the Humanitarian Futures Programme's prior work on strategic development, it is recommended that the right approach is not to rely on projections from the past, but instead to prepare for new challenges by *planning from the future*. In other words, the effective strategic planner and policy-maker will make significant efforts to look for plausible transformational 'black swans,' new innovations and innovative practices to anticipate future scenarios. In so doing they will be using methods that will break through conventional ways of thinking. This is what is meant by a *future-fit* strategic development process.

When it comes to issues pertaining to *urban futures*, the HFP finds that the right approach will not be a 'fixed urban approach.' Instead, what increasingly will be required in an era marked by complexity and uncertainty are operational methodologies that support strategic flexibility, and sensitise Save the Children staff and offices to the sorts of factors shaping urbanisation and urban risk. This framework should be applicable to other challenges that Save the Children will face. The *urban futures* case is but one of myriad issues that could and should be explored to help not only prepare for that future, but also test Save the Children's fitness for that future.

With that in mind, we begin with a brief overview of the *futures* research methodology employed by HFP for this project. The remainder of this Section outlines a set of draft tools, informed by the methodology of the project, which can be developed and used by the Humanitarian Affairs Unit to incorporate a similarly innovative and speculative methodology into Save the Children's consultative and strategic planning processes. You can find detailed descriptions and instructions for using these tools in the Annexes.

The Urban Futures Project methodology

The *Urban Futures Project* has been informed by a speculative methodology intended to identify and demonstrate new tools and approaches for use by the HAU. The Project has consisted of four main phases, and observations from each of these phases have been incorporated below to inform HFP's recommendations to the HAU:

Phase 1: Tapping internal expertise: In Phase 1, HFP worked with the HAU to coordinate a Consultative Group consisting of Save the Children staff from multiple country and regional offices with an interest or expertise on urban issues. HFP carried out 18 interviews with members of the Consultative Group in Phase 1, and continued liaising with the Consultative Group for further references on urban resilience and response, as well as follow-up Skype calls to discuss current Save the Children approaches to urban strategy.

Phase 2: Exploring the future with Save the Children: The HAU convened, at its London-based office, a futures workshop designed and facilitated by HFP and SAMI Consulting, a horizon-scanning consultancy group. At this workshop, 15 participants from across Save the Children regional and country offices engaged in an exercise using the '3 horizons' framework, an approach that asked workshop participants to think about the urban landscape in 2050 and identify key trends and challenges Save the Children would need to consider in the medium-term in order to shape a more desirable urban future.

Phase 3: Horizon scanning with urban experts: HFP carried out 30 interviews with a wide range of experts on the future of urbanisation and its humanitarian implications. Experts included academic researchers, such as urban planners, *futures* researchers, anthropologists, geographers and public health researchers, as well as leading researchers at research and policy institutions carrying out significant work on the urban theme. The purpose of this phase was to identify the key drivers and trends that would shape urban environments in the next 10-30 years, particularly for children in low- and middle-income countries.

Phase 4: Mapping the Way Forward: In this current and final phase of the *Urban Futures Project*, HFP is delivering this report and developing with the HAU a summary video to be distributed alongside the report.

Through these four phases, HFP has sought to enrich Save the Children's strategic thinking about urban environments over the next 10-20 years. The following tools have been designed to help embed four aspects of the methodology employed in the *Urban Futures Project*:

- The use of foresight and futures exercises and techniques
- Collating Save the Children's deep internal expertise and knowledge
- Interaction and dialogue with research experts
- Creating space for challenge and creativity

Tool 1: A Consultative Process for Future-Fit Strategy Development

In order to be prepared to face the humanitarian challenges posed by future urban environments, Save the Children will need to adopt strategies that are informed by the knowledge and perspectives of children, of academic and sectoral experts, and of its own staff. However, there are a number of challenges to incorporating such diverse perspectives in a way that identifies priorities coherently without lending greater emphasis to one group of voices unfairly or falling prey to ‘group think’ and conventional assumptions that blind an organisation to new ideas or threats.

In support of the Humanitarian Affairs Unit’s aim to embed longer-term and context-sensitive strategic thinking in Save the Children, the Humanitarian Futures Programme has outlined a draft consultative process for the purposes of holistic strategy development. This process utilises the Delphi method, an innovative technique for consulting a range of experts. The Delphi method was originally designed to help overcome the problem of ‘noise’ or ‘group think’ amongst experts. It does this through surveys that are administered to experts individually. Participants are asked to give their opinions on a given topic; these opinions are collated and areas of potential consensus identified. This is used to create a second round of surveys. Rounds of questionnaires are repeated until consensus is reached amongst the expert pool. The original purpose of the Delphi method was to solicit, in a structured way, expert opinion about the future of a topic on which there was little available data. It is still used widely as a futures/foresight tool to achieve a greater depth of knowledge on drivers or issues where projected trends are highly uncertain. However, it is also applied more broadly as a useful consultative method that builds consensus across a group of interested and informed stakeholders through an iterative process.

[Tool 2](#), listed in the Appendix, describes the stages of a consultative process based on the Delphi method and ending in a brief futures exercise for an HAU analyst to run with Save the Children staff and child beneficiaries. In this application of the Delphi method, the iterative consultative process builds consensus around strategic goals and processes amongst children, Save the Children staff and external experts. This process supports the creation of a Future-Fit Strategy, i.e. a strategy that enables Save the Children to be fit for the future by identifying horizon issues for children in a particular country or region, anticipating what programming is needed to address these issues, and outlining ways of working that allow Save the Children to be more innovative, collaborative and adaptive. These stages are also depicted visually in Figure 3.

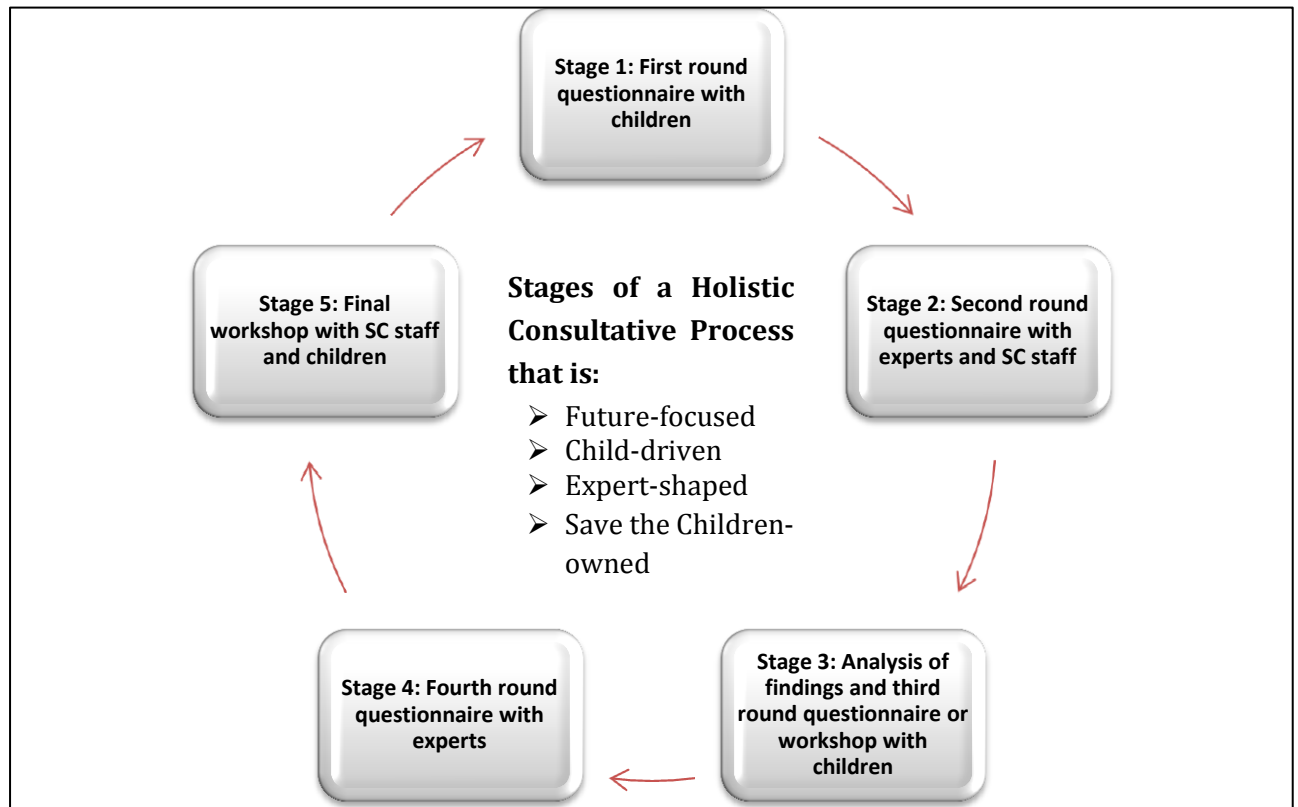
The purpose of the consultative process is to:

- Identify the most important future risks for urban children,
- Develop the priority actions that Save the Children should take to address these risks, and
- Identify the ways of working, or, processes, that Save the Children should adopt to make its work with urban children more sensitive to changes in the urban environment.

The anticipated outcomes of this process should be:

- Country and regional strategies that are better at guiding Save the Children to address new challenges and take on new opportunities
- Improved accountability to children
- Greater incorporation of scientific and research expertise into strategic planning and programming

Figure 3: A Holistic Consultative Process for Future-Fit Strategy Development



Stage 1: Creating an accountable basis for a Future-Fit Strategy

In the first stage, children set the agenda through an open-ended questionnaire asking for their views on key issues that they feel are important for their rights and welfare in the future. The Annex provides some potential draft questions that could be included in such a questionnaire. It is, however, recommended that the HAU draft the first round questionnaire in consultation with a Delphi method expert and Save the Children Sweden, who have specific expertise within the Save the Children family on consulting with children.

While Save the Children has a number of resources and tools for consulting with children, mechanisms for incorporating children's feedback *regularly and reliably* into strategic planning processes are not uniform across the organisation. Yet, this is a crucial aspect of ensuring that Save the Children's programming is accountable to children. This Holistic Consultative Process, therefore, enhances Save the Children's accountability to children by asking children to first identify issues and recommendations. In this sense it is *child-driven*.

Stage 2: Identifying areas of agreement and disagreement with experts and staff

In the second stage, a second-round Delphi questionnaire is drafted based on the results from the first round questionnaire. Participants in the second round—in this case, external experts and Save the Children staff from the relevant country or regional office—are then asked to rate these items in order of their importance, or their level of agreement or disagreement with the item's relevance. This creates a picture of where, in the issues identified by children, consensus lies amongst experts and Save the Children staff. Prior to beginning this Consultative Process, the HAU will need to identify the degree of consensus that they wish to seek in order to identify certain issues as agreed. This metric would be applied in Stage 2 to structure the results of the second round questionnaire and highlight areas of agreement and disagreement. It will also be interesting to see areas in which Save the Children staff agree or disagree with experts on the issues identified by children. To facilitate greater understanding, the second round questionnaire should include boxes for participants to offer reasons in favour of their ratings, and possibly also to list issues that they felt should be included. This stage ensures that the identification of strategic priorities is a process shaped by external expertise (*expert-shaped*) and owned by Save the Children staff (*Save the Children-owned*)

Stage 3: Reviewing with children

Relevant Save the Children country or regional office staff will take a summary of the results from the second-round questionnaire provided to them by the HAU and present this again to the child participants to ask them to rate the top agreed items as well as any new issues identified by Save the Children staff or external experts. Here, children will also be given the chance to explain the reasons in support of their ratings, or explain why the reasons listed by experts or Save the Children staff do not make sense to them or are insufficient to sway their opinion.

This can be a particularly crucial stage for ensuring that the strategy that emerges from this process is *future-focused*. This stage allows children to interrogate the assumptions and reasons that underpin the opinions and perceived priorities of experts and Save the Children staff, leading to new understandings and questions about what Save the Children will need to do to prepare for future humanitarian issues.

Stage 4: Reviewing with experts

In stage four, experts are provided a final opportunity to review the children's ratings and revise their own ratings in light of these findings. While only slight increases in the degree of consensus can be expected, this is an important step in ensuring that the final strategy reflects the considered judgments of relevant experts.

Stage 5: Developing a future-fit strategy

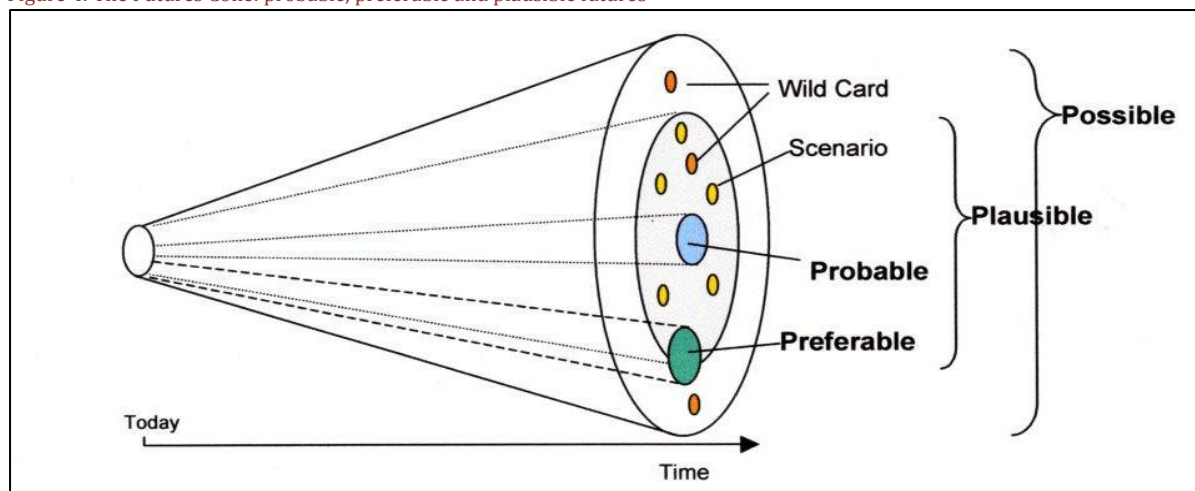
In the final stage, Save the Children country or regional staff will join with the child participants in a final workshop facilitated by an HAU analyst to identify the final set of priorities, recommended actions and future-fit ways of working.

Tool 2: Shared Urban Futures: An exercise for humanitarian and development personnel

One of the key findings from the *Urban Futures Project* is that greater coordination and collaboration between development and humanitarian personnel is necessary for Save the Children to build resilience effectively and respond to a humanitarian disaster in an urban context. However, the culture of a dual-mandate organisation may not provide a supportive environment for this collaboration. [Annex 4](#) outlines a scenario exercise to be used between humanitarian and development personnel as a way to facilitate discussion around shared issues and needs. By discussing possible future scenarios, staff are taken out of their comfort zones, thus mitigating a sense of territorial defensiveness and opening humanitarian and development programming staff up to understanding the future urban context as one of shared responsibilities and strengths.

There are many different types of scenario exercise that organisations can use to plan from the future. Figure 4 depicts the futures cone, a visual model for understanding the different stories that can be developed as part of a futures exercise and how they relate to an organisation's present position. Some scenario exercises are *predictive*, that is, they seek to characterise the future situations represented by the 'Probable' circle in the diagram. Other scenarios are *exploratory*, attempting to identify the range of plausible outcomes and changes for which an organisation might need to prepare. *Normative* scenario exercises seek to identify the preferable future situation (the green circle) and strategies and means of achieving it.

Figure 4: The Futures Cone: probable, preferable and plausible futures⁸¹



The exercise outlined in [Annex 4](#) is a 5th Scenario exercise.⁸² This exercise is exploratory and normative, presenting participants with a set of scenarios for the future and asking them to consider which is the most plausible and preferred future for them as a group. They are then prompted to create a 5th scenario that improves upon this preferred future, by building on the strengths and minimising existing challenges or threats, and identifies strategies to achieve this.

81 Voros, 2001.

82 For more, see the description of this approach at: <http://hsctoolkit.bis.gov.uk/The-Fifth-scenario-SAT.html>

Engaging in this exercise allows development and humanitarian staff to discuss how they analyse potential scenarios differently or similarly and then build a shared preferred future by drawing on their own unique set of strengths and talents. While an urban context provides an unusually fertile opportunity for humanitarian-development collaboration, this exercise could feasibly be extended to rural and camp settings to support a more integrated approach within Save the Children.

Tool 3: Future-fit mental short-cuts

In recent years, heuristics and cognitive biases have entered popular culture through the work of Daniel Kahneman and Avos Tversky⁸³ but they have yet to be applied widely in the humanitarian sector. ***A heuristic is a method or principle that helps a decision-maker reduce the effort needed for a task: it is a mental short-cut.*** Rather than considering all the possible options and information, which could take an infinite amount of time (certainly longer than any humanitarian decision-maker has to make a decision), decision-makers can use heuristic devices to arrive at good-enough decisions more quickly.

Such mental short-cuts can be particularly useful for decision-making in complex environments which feature an overload of stimuli and information, such as an urban environment. They work by limiting the amount of information our brains process when deciding on an option or action. However, when thinking about long-term planning and the anticipation of new crises and challenges, such short-cuts pose an interesting challenge. One of the most powerful ways in which we take a mental short-cut is by ignoring new information that does not fit our currently held understandings of the world. When we combine these two aspects of our psychology—(1) the way short-cuts help us tune out certain information to reduce brain effort and (2) our tendency to pay less attention to new information that does not fit with our current expectations about the world—this creates, from a *futures* perspective, a dangerous mindset that is literally blind to possible new and unknown situations.

This does not mean that we should try to get rid of our use of heuristics—it is unlikely that we ever could if we wanted to. Rather, Save the Children needs to develop heuristic methods, or, short-cuts, designed for urban settings that can assist its country staff in identifying priorities for resource deployment and in monitoring spikes in risk or vulnerability. It is essential that one takes as open and speculative an approach to developing a short-cut tool, as some of the most effective tools can often seem silly or implausible at first glance. For example, the US disaster management agency FEMA uses a short-cut device called the Waffle House Index to assess the immediate impact of a disaster. The Waffle House Index runs on a basic traffic light scale (red-amber-green) and is based on the observation that the Waffle House, a chain of restaurants in the United States, had developed an exceptionally resilient approach to disaster management. ‘Green’ on the scale indicates that Waffle House stores are open and offering a full menu, giving some indication of the viability of stock supplies. ‘Amber’ indicates open Waffle Houses serving limited menus. ‘Red’ indicates closed Waffle Houses, and thus a severely damaged area, given

83 Kahneman & Tversky, 2000, 2002; Kahneman 2012.

the rarity of Waffle House closures. In applying the tool, FEMA has found that ‘the Waffle House test doesn’t just tell us how quickly a business might rebound – it also tells us how the larger community is faring. The sooner restaurants, grocery and corner stores, or banks can re-open, the sooner local economies will start generating revenue again – signalling a stronger recovery for that community.’⁸⁴

Save the Children could feasibly develop a similar short-cut tool, adapted to the businesses or institutions employing strong disaster management practices in the communities in which it operates. Again, this points to the importance of being present *prior* to an urban disaster in order to contribute effectively to response and recovery. Context matters, and effective mental short-cuts that can aid a quick response will only be developed by individuals who already have a strong familiarity with a given city or peri-urban area.

The Waffle House Index is an example of a mental short-cut that works through ‘representativeness’: it uses Waffle Houses and their status as *representative* of the how well the broader geographical area is faring after a disaster. A second type of mental short-cut focuses on the *availability* of examples or models. Availability short-cuts influence our judgments about probability: when it is easy for us to think of an example of an event, we consider the probability of that event occurring to be higher.⁸⁵ Studies have shown that individuals are more likely to consider death by shark attack or airplane crash to be more probable than death by a lightning strike, because the intense media coverage of shark attacks or airplane crashes leads them to overestimate the likelihood of those risks being realised.⁸⁶ This can have significant impacts on individuals’ perceptions of the probability of disasters, such as flood or earthquake, as risks for these disasters may be quite high despite the absence of a recent occurrence of flood or earthquake.⁸⁷

The availability short-cut can often be the enemy of planning from the future, as issues sitting on the long-term horizon are unfamiliar to us and do not correspond well with many of the situations or experiences we deal with in the present. The availability short-cut leads us to emphasise those present situations or experiences over the novel and unfamiliar in our thinking and planning.

However, Save the Children can harness the *availability* heuristic for more *future-fit* strategising by engaging in scenario exercises with its staff. Scenarios present novel and unfamiliar situations to individuals and require them to work through their decisions and actions in these situations. Creating climate-change themed urban emergency scenarios that enable staff to explore the occurrence of perceived low-probability, high-impact hazards can enable those staff to prepare better for the future impacts of climate change on urban settings that have yet to be experienced.

84 FEMA 2011

85 Tversky & Kahnemann 1973

86 Read 1995

87 Sunstein 2005

Mapping the Way Forward

Key recommendations:

- Pilot the draft tools described above ([Tool 1](#) and [Tool 2](#)) with interested Save the Children country and regional office staff and adapt for wider use, as well as use with headquarters/global staff
- Develop context-specific indices to provide a 'representativeness' short-cut to urban staff for assessing disaster impact or resilience
- Develop new scenario exercises, to be undertaken with staff and children, which enable Save the Children staff to become more cognitively available to speculative and horizon topics that can shape their future urban operating contexts.

While these draft tools will prove to be a sound starting point to promote more strategic approaches to prepare for urban *futures* and indeed for other sorts of strategic issues that Save the Children will need to consider, the ethos of a *future-fit* organisation will require a consistent and systematic commitment to greater anticipation, adaptation, innovation and new types of partnerships. Section III suggests the way forward for the HAU in terms of its structure and function.

Section III: Mapping the Way Forward: Recommendations for a futures-oriented Save the Children International

[Section I](#) of this report discussed the potential humanitarian implications of *urban futures*. [Section II](#) and the Annexes provide examples of tools that Save the Children can use to plan for these implications. This final Section III is addressed to the Humanitarian Affairs Unit (HAU) specifically and provides recommendations for how the HAU can institutionalise adaptive programming, anticipatory strategy, and innovative thinking and practices across Save the Children International. These recommendations are presented under seven themes, illustrating how observations from a project on urban futures and resilience can demonstrate the role and operational structure of a dynamic, futures-oriented SCI brains-trust: Resilience and the HAU

- [A multi-layered, interactive and externally engaged HAU](#)
- [Resilience and the HAU](#)
- [Innovation Monitoring and Exploration](#)
- [Interpreter and Knowledge Curator](#)
- [Forward... to an Urban Future](#)

A multi-layered, interactive and externally engaged HAU

Save the Children's strategic approach to future humanitarian challenges, including urban risk, rely on analysis that is relevant to a particular geographical area while also informed by broader research on thematic issues. Marrying these two perspectives—thematic and geographical—is a key challenge to analysis units such as the HAU. A similar challenge lies in ensuring that global strategies are adequately informed by, and follow, realities and perspectives from low- and middle-income countries. In discussion with experts from a range of policy organisations, HFP identified a number of steps the HAU can take in order to build a multi-layered structure that not only balances across global-regional-local-thematic perspectives, but provides a conduit for interactive dialogue and cooperation across these:

- **Organise Advisory Panels to consult with Save the Children on specific thematic topics**
HFP recommends that the HAU continue to place analysts at the regional level that can serve as geographical focal points, while simultaneously creating roles and responsibilities for those analysts to coordinate thematic Advisory Panels across a set of topics. These Panels would be similar in profile to the expert consultative group that HFP identified and interviewed for [Phase 3](#) of this Project. The HAU Regional Analyst would bear responsibility for coordinating with these Advisory Panels across a set of topics, communicating key questions from country offices to those panels and organising opportunities for strategic input from the Advisory Panel at country, regional and global level.

- **Pilot and develop further the draft consultative process to ensure a holistic approach to developing *future-fit* country, regional and global strategies.** Along with piloting the draft consultative process described in [Annex 3](#), the HAU should seek to expand on this to identify new entry points at which country, regional and global strategies can intersect and inform one another, in particular looking at how global priorities can be better shaped by local experiences.
- **Carry out annual regional reviews of core issues and how they are being approached within the region.** These reviews could feed into the development of scenario exercises for country-level staff to support speculative and innovative thinking as described below under Innovation Monitoring and Exploration.
- **Reach out to *slumdweller*s associations, local credit unions, and other local organisations and structures that are key to understanding power structures, risk and vulnerability in urban areas.** While it may not be feasible for the HAU to do this for all local contexts, its regional analysts should consider implementing a pilot programme for each region in which 4-5 *slumdweller*s associations are approached and partnerships developed in order to identify best practices and principles for effective collaboration.
- **Spearhead stronger engagement and partnership with regional organisations,** including inter-governmental organisations, civil society networks, and research institutions. Save the Children Asia's links with regional organisations is strong and could potentially be used as a role model for other regions with regards to this recommendation. The HAU will need to coordinate with Regional Directors and develop strategies for collaboration that ensure a harmonised approach to external regional organisations.
- **Develop innovative interactive communication mechanisms with vulnerable populations that go beyond standard accountability practices and seek to engage such populations in planning and strategic processes before disasters occur.** Save the Children already uses consultative practices with communities, especially children. However, the HAU can strengthen these partnerships through innovative approaches to consultation. In this context, the use of ICT will become increasingly important, in part because more and of what are deemed to be vulnerable populations will have access to ICT, and in part because prevention, preparedness and response mechanisms will be increasingly virtual-based.

Resilience and the HAU

Save the Children's approach to urban resilience and response is currently inhibited by a strong internal divide between humanitarian and development policy and programming. Many experts interviewed during Phase 3 of this project felt that this divide would crucially limit Save the Children's capacity to engage effectively in urban resilience building. While the HAU is naturally placed on one side of this divide, there are many opportunities it can take to build a cohesive

approach to urban environments that reflects a more holistic approach to urban risk and vulnerability. Specifically, HFP feels that the HAU can:

- **Define what resilience means for children, and for Save the Children as an organisation.** During [Phase 3](#), one expert said that the concept of resilience poses some issues when combined with a child rights approach.⁸⁸ Whilst accepting that children are and should be active agents, there are issues around the level of responsibility that children should hold in terms of keeping themselves safe, and the HAU would do well to help clarify Save the Children's position on this. In particular, Save the Children's position on child resilience could be strengthened through greater clarity on who bears what responsibilities for disaster resilience and how Save the Children envisions the roles of families and institutions, in building resilience, particularly in an urban environment.
- **Coordinate strategic planning sessions at the global level between humanitarian and development managers at senior levels.** As part of a broader-based effort to promote closer, systematic collaboration between humanitarian and development sections within Save the Children, the HAU should promote regular planning meetings at various levels within the organisation and outside experts, including those from the private sector, the science community and the military, to focus on integrated approaches to vulnerability analysis, resilience and sustainability.
- **Develop activities and opportunities for humanitarian and development professionals within Save the Children to analyse and debate shared issues.** HFP has developed a short scenario exercise as part of the *Urban Futures Project* that can be used by humanitarian and development staff to help bring together these two perspectives for a more holistic approach to vulnerability and risk. This should be adapted for headquarters as well as regional and country office use.
- **Use data and analysis from development personnel as baseline measurements for use in humanitarian work.** Experts familiar with humanitarian responses in urban settings said that the lack of adequate baseline data was a significant challenge for determining when it was appropriate to launch an intervention. In some cases, development personnel within Save the Children have extensive experience working in urban settings, or, more importantly, in areas surrounding an urban centre, and can provide data that is crucial to early warning and disaster prevention activities.

⁸⁸ Interview with David Dodman, International Institute for Environment and Development

Innovation monitoring and exploration

The changes and dynamics discussed in [Section I](#) point to an ever-pressing need for humanitarians to innovate and move beyond out-dated ways of working in order to reduce disaster risk more effectively and build resilience in urban areas. ICT is of course a significant mechanism for innovation on which Save the Children can focus its efforts. However, innovations can also be sought through other means, for example by adopting new methods from fields such as epidemiology or anthropology, or by innovating new ways of positioning Save the Children's assistance for different urban users. In this context, HFP feels that the HAU can operate as an engine for innovation within Save the Children International, playing a core role in monitoring innovation across Save the Children, broadening the impact of these innovations, and exploring unidentified opportunities for improving core practices and products. Some of the ways in which the HAU can achieve this are:

- **Cultivate a culture of innovation through the creation of an incentive structure or award scheme.** The HAU might consider sponsoring awards for regional offices, country offices and individual members of staff that reward innovations and experimental approaches. HFP has found in its other work that such rewards systems are an important means for building an organisational culture for innovation;
- **Monitor innovation and develop a self-assessment tool. Self-assessment tools can be used by** country and regional offices to identify gaps in office culture and practice that inhibit innovation. Gathering this kind of information can help the HAU identify country offices most in need of technical support;
- **Design or commission a broader toolkit of futures exercises and practices for Save the Children country and regional offices to use.** As discussed in [Section II](#) and observed during the Inception Workshop for this Project, futures and foresight exercises push participants to think openly yet critically about their future operating environment, and force them to engage in problem-solving for the long-term. This approach stimulates the kind of creative thinking and long-term analytical skills that support the development of innovative solutions and approaches. The HAU can therefore support innovative practice within Save the Children by providing exercises and activities that support an environment for innovative thought;
- **Support a stronger 'marketplace' or repository for innovative approaches and experiments across Save the Children offices.** Through the *Urban Futures Project*, HFP became aware of several actions being taken across Save the Children to modify or adapt tools, design new approaches and carry out innovative comparative research on urban resilience and response. A first step in harnessing the value of these efforts is ensuring they are made available through a one-stop resource, whether that resource is an analyst position or an online portal. This may simply involve a modification to the current Save the Children Resource Centre, where a special section or page is created for particularly innovative practices;

- **Provide a dependable resource for best practice by acting as a curator of the aforementioned repository.** For staff with limited time, receiving curated pieces of best practice can be a crucial tool for learning. The HAU should therefore not only provide a repository but also highlight on a regular basis pieces of work that are particularly innovative or suitable for broader application.
- **Focus greater attention on ICT and ICT-based innovations for urban and peri-urban areas.** As noted in [Section I](#) of this report, information and communications technology will be one of the most transformative factors that the world will witness over the next two decades. It will substantially affect the ways that societies interact, and will certainly determine ways that vulnerabilities, humanitarian needs and responses are identified. And yet, few organisations in the humanitarian sector have made determined and consistent efforts to identify the benefits as well as the hazards stemming from ICT. It will require an extensive commitment to do so, one which will prove to be of fundamental importance in an urban context; and, therefore, HAU should ensure that the appropriate expertise is fostered and shared throughout Save the Children.

Interpreter and Knowledge Curator

[Phase 1](#) of this project found that most Save the Children staff, especially at the regional and country levels, rarely have adequate time to read relevant research, build relationships with external experts and researchers who can contribute to their thinking, both in terms of new ways of dealing with the present and of preparing for the future. During [Phase 3](#), several experts mentioned that many ‘urban myths’, i.e. mythologies and unproven assumptions about urbanisation and urban risk, were perpetuated through readily available and accessible sources of information, such as Wikipedia pages. In order to get information that would be more sensitive and accurate, the HAU can play a valuable role as an interpreter and curator of information and analysis, specifically by engaging in the following:

- **Develop specialist analyses around thematic topics.** This analysis should be user-centred and may need to be presented in innovative formats such as interactive online games or short videos.
- **Identify and develop key indices.** Throughout these recommendations the importance of HAU’s knowledge-brokering and information conduit roles have been emphasised. Nevertheless, special attention should be given to these roles in terms of HAU’s support for developing country and regionally-specific indices for potential urban humanitarian threats. Relevant learning devices for this sort of exercise are described in [Section II](#), and the importance of fostering this sort of expertise locally and to have this as an additional basis of information exchange cannot be overestimated.
- **HAU as the source of intriguing questions.** Most of the academic and policy researchers participating in Phase 3 of the project felt that humanitarian organisations had a number of concerns and questions that would be of interest to researchers. The key is for the HAU to

act as a conduit for such concerns for Save the Children as a whole, and through the wider movement to identify those specific concerns and questions that can benefit from outside experts. Such experts may not be familiar with the mission and operations of humanitarian organisations, but with guidance from the HAU, their expertise can be appropriately focused. Communicating the results of experts' conclusions and recommendations to Save the Children would be an essential part of HAU's brokering role.

- **Support the work of the Humanitarian and Leadership Academy.** The Humanitarian and Leadership Academy, developed by Save the Children for the wider humanitarian sector, aims to serve as a major capacity building initiative for humanitarian practitioners. The idea is to establish a network of regional centres to help improve access to professional development and humanitarian knowledge, with a particular focus on local and national capacity. Here, too, the HAU should serve as a conduit of Save the Children expertise – both internal and external – to enhance the capacity of the Academy and to offer all the benefits of a knowledge broker.
- **Broker between communities and researchers to create empowering opportunities for disaster-affected populations.** Academic researchers can learn not only from humanitarian organisations, but from the communities that these organisations serve. The HAU should support an empowered role for its most important urban experts: those who live in the areas that Save the Children operates and who are at greatest risk in cases of urban disaster. Here, too, the HAU can seek ways to support the work of the Humanitarian and Leadership Academy;
- **Build an internal contacts log of global expertise.** With very few exceptions, most of the experts and resources identified during this phase emerged out of recommendations from members of the Save the Children consultative group. This indicates that, when necessary, Save the Children can draw on strong internal knowledge of relevant outside projects and research to build its knowledge base around the urban topic. However, for many of the experts who participated in the survey, the *Urban Futures Project* was their first contact with Save the Children. HFP feels that the HAU can provide links between external experts and Save the Children policy planners and practitioners, and in so doing, create an on-going portal of experts from around the world.

Forward...to an Urban Future

The above recommendations suggest ways forward that Save the Children might wish to consider as it prepares for the complexities of urban *futures* and other complex issues that it will inevitably have to face in serving the needs of children. The first step towards that goal is the commitment to dare to think about the 'what might be's' and to realise that the future will not likely resemble the past, particularly in the ever-changing and complex dynamics shaping urbanisation.

Annex 1: Urban References & Resources

Throughout the course of the *Urban Futures Project*, the Humanitarian Futures Programme research team amassed a large reference log pertaining to urban resilience and humanitarianism in an urban setting. We have provided a full list of these references for the benefit of Save the Children, in case members of staff are interested in following up on relevant projects or utilising online resources. The references and resources are divided into the following categories:

- [Save the Children projects, initiatives and internal resources:](#)
Urban-themed or urban-relevant projects, initiatives and internal resources discovered during the research and consultation process of the *Urban Futures Project*
- [External Urban Projects:](#)
Projects and initiatives undertaken by external research organisations, NGOs and IGOs
- [Events:](#)
Webpages listing recent urban humanitarian themed events where one can find key outputs from these events
- [Literature:](#)
Research literature and reports on urban humanitarian issues

Save the Children urban projects, initiatives and internal resources

Internal

Urban mapping activities (primarily undertaken by SC U.S.)

- **Asia:** Excel document with an overview of SCI Asia urban programmes, locations, SC members, budgets, donors, project dates, contacts, issues addressed, key interventions and populations served (April, 2012).
- **Bangladesh:** Excel document with an overview of SC Bangladesh urban programmes, locations, SC members, budgets, donors, project dates, contacts, issues addressed, key interventions and populations served.
- **LAC, MME, ASIA, AFRICA:** Excel document with a preliminary overview of SC urban programmes across several regions including locations, SC members, budgets, donors, project dates, contacts, issues addressed, key interventions and populations served (April, 2012).

Urbanisation and Programming in Asia

- Powerpoint presentation and supplementary notes highlighting the importance of the urban agenda and the shift of focus from rural to urban. The presentation provides an overview of the reasons behind and the issues surrounding urbanization, with emphasis on Asia. It also addresses the issue of the impact of disasters in urban environments as well as the particular impacts that urbanization has on children. Presentation materials

looks finally at what can be done in terms of tools, stake holders, partners, donors, local government pilots, including children, advocacy and mapping.

Urbanisation Trends in Asia

- This document illustrates significant population and urbanisation trends as well as presenting figures for Urban 'Slum' populations. It provides a brief overview of urbanisation and the complexities of trying to address associated issues. It provides a comparison of urban vs rural issues, including poverty.

Reports and training

- **Save the Children US: 2012 Urban Work and Plans for 2013:** Document profiling Save the Children US's Urban Work in 2012. The paper highlights SC US's efforts to advance their urban work. It discusses progress made in 2012, areas for improvement and plans for 2013 (2012).
- **Save the Children's Experience in Urban Health and Nutrition Programming:** This document maps information from country offices about SCI's urban health and nutrition programs over the past five years. This paper summarizes the organization's experience in this area and provides recommendations from country offices regarding future opportunities for funding and programming.
- **Save the Children's Experience in Urban Health and Nutrition Programming:** This document maps information from country offices about SCI's urban health and nutrition programs over the past five years. This paper summarizes the organization's experience in this area and provides recommendations from country offices regarding future opportunities for funding and programming.
- **Strategic Positioning Of Urban Programming**
Save the Children International, 13th May 2013. Document available upon request.
- **Improving Humanitarian Response to Disasters: Training For NGO Responders**
23-36th July 2013, Bangkok. Presentation available upon request.

Publicly available resources

Voices from Urban Africa: The Impact of Urban Growth on Children

- This report presents findings of research that looked at urban poverty and its impact on children. The study aimed to get a clearer understanding of the physical and social context in which urban children live. Other documents accompanying the release of this report, including press release, suggested communications (tweets and Facebook posts) an executive summary and key messages and talking points document [internal distribution only] are also available (December 2012). Document available online: [http://www.savethechildren.org/site/c.8rKLIXMGIpI4E/b.8457727/k.6CB0/Voices from Urban Africa.htm](http://www.savethechildren.org/site/c.8rKLIXMGIpI4E/b.8457727/k.6CB0/Voices%20from%20Urban%20Africa.htm)

External Urban Projects

100 resilient cities

Rockefeller Foundation.

- Project page: <http://www.rockefellerfoundation.org/our-work/current-work/100-resilient-cities>

ALNAP: Urban Portal

ALNAP Lessons Papers including:

- *Responding to urban disasters: Learning from previous relief and recovery operations (2012) and (2009)*
- *Meeting the Urban Challenge: Adapting humanitarian efforts to an urban world (2012)*
- Project page: <http://www.alnap.org/ourwork/urban.aspx>

Asian Cities Climate Change Resilience Network

Rockefeller Foundation

- Project pages: <http://www.acccrn.org>

Asian Trends Monitoring Project: Urban Poverty Series

Asian Trends Monitoring Project, Lee Kuan Yew School of Public Policy, National University of Singapore.

- Project pages: <http://www.asiantrendsmonitoring.com/2012/12/27/atm-urban-poverty-series/>

British Red Cross, Learning from the City

Scoping study. See '[Literature](#)' for reference.

CKDN: Urban areas and climate change

Climate and Development Knowledge Network.

- Project pages, including a series of articles and project updates available: http://cdkn.org/themes/urban-areas-2/?loclang=en_gb

European Commission Research Papers, European Commission:

Calafati, A. (2010) 'European Cities' Development Trajectories: A Methodological Framework'.

- Report available: http://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/citiesoftomorrow/citiesoftomorrow_economic.pdf

van Cutsem, M. (2010) 'Cities of Tomorrow: Challenges, visions and dys-visions as seen by cities'.

- Report available: http://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/citiesoftomorrow/citiesoftomorrow foresight.pdf

Fayman, S. et al. (2011) 'Good policies and practices to tackle urban challenges'.

- Report available: http://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/citiesoftomorrow/citiesoftomorrow_case.pdf

Tosics, I. (2011) 'Governance challenges and models for the cities of tomorrow'.

- Report available: http://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/citiesoftomorrow/citiesoftomorrow_governance.pdf

Vranken, J. (2010a) 'Social challenges of cities of tomorrow'.

- Report available: http://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/citiesoftomorrow/citiesoftomorrow_social.pdf

Harvard Humanitarian Initiative: Urbanization and Emergencies Programme

Current projects include:

- Mapping Vulnerabilities and Health
- Comparing the current standard of living in the Nairobi Slums with the Sphere minimum standards used during humanitarian emergencies.
- Urbanization and Climate Change Vulnerabilities
- Urban Humanitarian Emergencies Working Group
- Human Security and Resilience in Complex Urban Landscapes
- Project pages: <http://hhi.harvard.edu/programs-and-research/urbanization-and-humanitarian-emergencies>

Institute for Alternative Futures: Vulnerability 2030 Scenario Toolkit

The purpose of the toolkit is to help organizations consider the implications of the Vulnerability 2030 Scenarios for their own strategies and operations. The toolkit enables organizations to conduct their own scenario planning exercise.

- Project pages: <http://www.altfutures.com/vulnerability2030>

International Institute for Environment and Development (IIED), Human Settlements Group

The human settlements group works to reduce poverty and improve health and housing conditions in the urban centres of Latin America, Asia and Africa. It seeks to combine this with promoting good governance and more ecologically sustainable patterns of urban development and of rural-urban linkages. This is achieved by engaging in policy research, most of which is undertaken in partnership with NGOs and academic institutions in Africa, Asia and Latin America. The work also includes evaluation, technical and policy assistance, seminars, **publications and training.**

LSE Cities

LSE Cities is an international centre at the London School of Economics and Political Science that carries out research, education and outreach activities in London and abroad. Its mission is to study how people and cities interact in a rapidly urbanising world, focussing on how the design of cities impacts on society, culture and the environment. Through research, conferences, teaching and projects, the centre aims to shape new thinking and practice on how to make cities fairer and more sustainable for the next generation of urban dwellers.

- Project pages: <http://www.lse.ac.uk/LSECities/home.aspx>

Oxford Programme for the Future of Cities

Oxford University

- Presentation 'Three scenarios for the future of cities': <http://www.slideshare.net/noahraford/oxford-future-of-cities-the-harvard-gsd-4504549>
- Project page: <http://www.futureofcities.ox.ac.uk/>

Sustainable Development for Cities and Communities in Scotland & Europe

SNIFFER – Sustainable Development for Scotland and Northern Ireland

- Project page: <http://www.sniffer.org.uk/knowledge-hubs/sustainable-cities/>

Sustainable Service Delivery in an Increasingly Urbanized World

[DRAFT] USAID Policy, March 2013.

- Report available:

http://www.usaid.gov/sites/default/files/documents/1870/USAIDSustainableUrbanServicesPolicy_DraftforReview_March2013.pdf

UCL Urban Laboratory

The UCL Urban Laboratory, established in 2005, is a university wide initiative that brings together the best urban teaching and research at UCL. Its activities build on the full spectrum of work across the arts and sciences, ranging from civil engineering to film studies, from urban history to the latest developments in architectural design. The UCL Urban Laboratory encourages urban thinking, research, teaching and practice that are critical, creative, independent and interdisciplinary. The centre aims to share the knowledge our work produces widely, with diverse audiences.

- Project pages: <http://www.ucl.ac.uk/urbanlab>

Events

Advancing Urban Resilience in the Face of Environmental Challenges, Expert Working Group Meeting

RTS School for Non-traditional Security Studies, National University of Singapore, 22nd – 23rd April 2013.

- Event page: <http://www.rsis.edu.sg/nts/article.asp?id=242>

APR Urban Forum: Life in the Fast Lane, Nurturing Hope in the midst of Progress

World Vision, 13th – 15th March 2013. Event summary available upon request

Climate Disclosure Project Global Cities Report: Climate Action Leading to Healthier, Wealthier Cities

USAID, 31st July 2013.

- Event page: <http://www.makingcitieswork.org/event/making-cities-work-speaker-series-webinar>

Coordination, Capacities and the Role of Municipal Authorities: The Case of the Philippines

UNICEF (Rory Villaluna, Philippines CLUSTER Coordinator), 17th October 2012.

- Event page resource: www.alnap.org/resource/7545.aspx

Disaster governance: The urban transition in Asia

National University of Singapore, 7th – 8th November 2013.

- Event page: http://www.ari.nus.edu.sg/events_categorydetails.asp?categoryid=6&eventid=1421

Engaging Violent Cities: Operational Challenges for Humanitarian Action in Urban Areas (webcast)

Harvard University, Programme on Humanitarian Policy and Conflict Research, 25th April 2013.

- Recording available: <http://www.hpcrresearch.org/events/engaging-violent-cities-operational-challenges-humanitarian-action-urban-areas-humanitarian-a>

Smart, Safe and Resilient Cities forum 2013

World Alliance of Cities Against Poverty (WACAP), 20th – 21st February 2013, Dublin, Ireland.

- Event page: <http://www.dublin2013.ie/>

The cost of inequality: Asia's poor and children left behind? What should be the way forward post-MDGs 2015?

Asian Trends Monitoring Project, Lee Kuan Yew School of Public Policy, National University of Singapore, 18th January 2013.

- Event page: <http://www.asiantrendsmonitoring.com/2012/12/13/upcoming-event-cost-inequality-asias-poor-children-left/>

Understanding the city better as the key to disaster response and reconstruction – UN Habitat's experiences (webinar)

UN-HABITAT, 25th March 2013.

- Recording available: <http://www.alnap.org/story/149.aspx>

Urban Violence, What Role for Traditional Humanitarianism?

All-Party Parliamentary Group on Conflict Issues & the International Committee of the Red Cross, 21st March 2013.

Report available: <http://www.icrc.org/eng/resources/documents/feature/2013/03-25-uk-urban-violence-what-role-for-humanitarianism.htm>

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Annexe 2: Expert interviewees

The Humanitarian Futures Programme is grateful to the following experts who contributed a variety of crucial insights on the urban theme:

Dr Pushpa Arabindoo – Co-Director, University College of London Urban Laboratory.

Mr N.M.S.I. Arambepola – Director and Team Leader, Asian Disaster Preparedness Centre.

Dr Sheridan Bartlett – Senior Research Associate, Human Settlements Programme, International Institute for Environment and Development.

Mr Ben Ramalingam – Independent Consultant.

Dr Camillo Boano – Senior Lecturer, Development Planning Unit, UCL.

Mr Brian Brader – Independent Consultant.

Ms Anna Brown – Associate Director, Rockefeller Foundation and Manager of the Rockefeller Foundation’s Asian Cities Climate Change Resilience Network.

Mr. Allister Clewlow – Head of Food Security, Samaritan’s Purse

Mr David Dodman – Senior Researcher, International Institute for Environment and Development.

Professor Sharon Friel - Professor of Health Equity, College of Medicine, Biology and Environment, Australian National University.

Professor Mohamed Hamza – Director, Global Climate Adaptation Partnership.

Professor Richard Hanley – Founding editor of the Journal of Urban Technology and Professor of English, City University New York.

Ms Geci Karuri-Sebina – Executive Manager, South African Cities Network.

Mr Paul Knox-Clark – Head of Research and Communications, ALNAP.

Professor Jerome Krase – Emeritus and Murray Koppelman Professor, Department of Sociology, City University New York.

Mr Johannes Loh – Coordinator, Asian Trends Monitoring Project.

Ms Elena Lucchi – Independent Consultant.

Dr Anne-Maria Makhulu – Assistant Professor of Cultural Anthropology, and of African and African American Studies, Duke University.

Ms Bethany Martin-Breen – Programme Associate, Rockefeller Foundation.

Dr Robert Muggah – Research Director, Igrapé Insitute.

Professor Sue Parnell – Department of Environmental and Geographical Sciences African Centre for Cities, University of Cape Town.

Professor Mark Pelling – King's Centre for Integrated Research on Risk and Resilience, Department of Geography, King's College London.

Dr Debby Potts – Reader, Department of Geography, King's College London.

Dr Joe Ravetz – Co-director, Centre for Urban and Regional Ecology, University of Manchester.

Dr Eric Rice – Associate Director, Urban Health Institute, John Hopkins University.

Mr Philipp Rode – Executive Director, LSE Cities, London School of Economics & Political Science.

Dr Andrew Sanchez – Research Fellow, Max Planck Institute for Social Anthropology.

Professor David Satterthwaite – Senior Fellow, International Institute for Environment and Development.

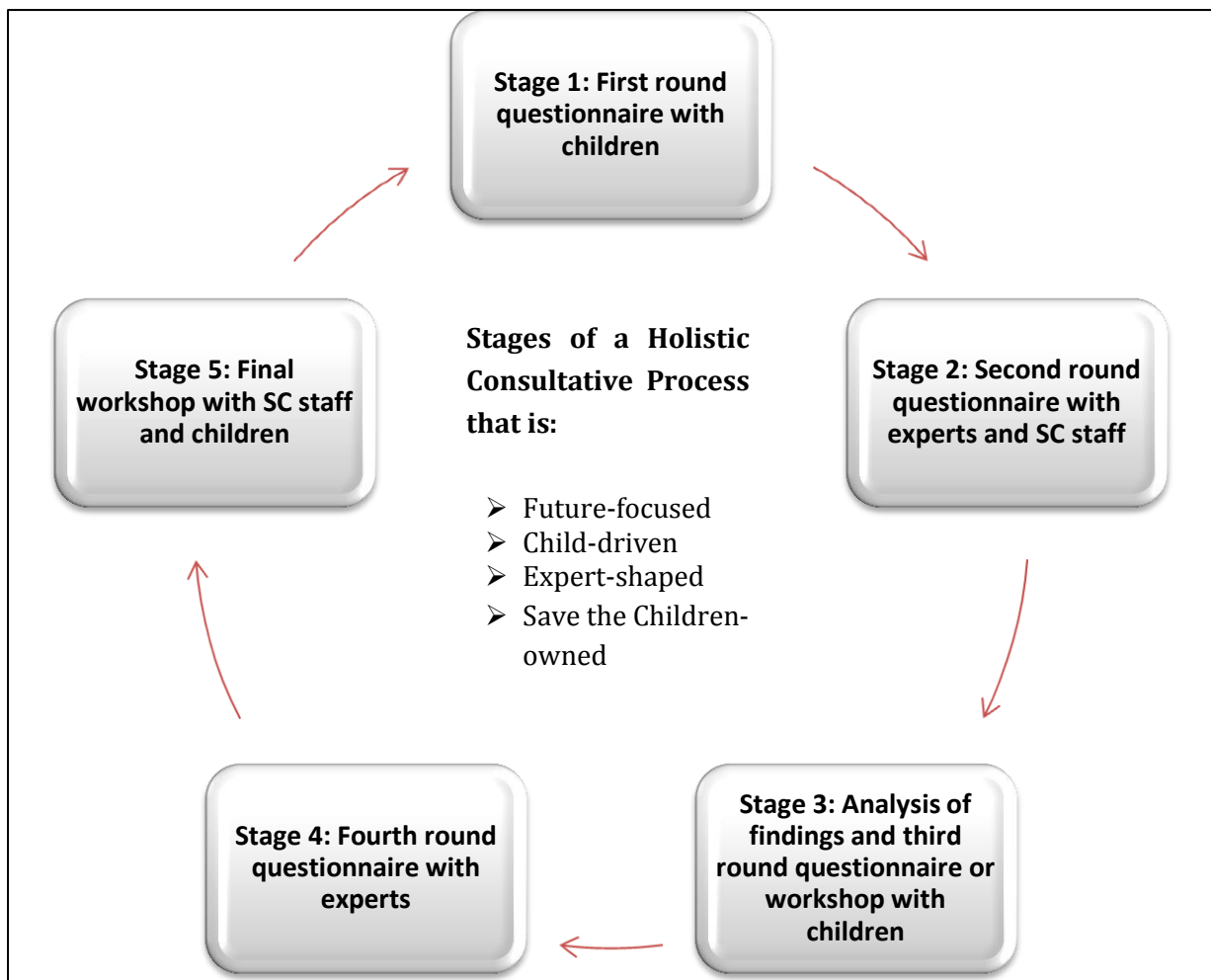
Mr Terry White – Independent Consultant.

Annex 3: A Consultative Process for Future-Fit Strategy Development

This Annex describes the stages of a draft consultative process based on the Delphi method and including a brief futures exercise for an HAU analyst to run with Save the Children staff and child beneficiaries. The Delphi method was originally developed by the U.S.-based RAND Corporation as a way to more effectively and accurately collate expert opinion on the future development of Soviet technologies. It has been applied in many varied ways with a diverse range of decision-makers and experts and to a diverse set of policy issues, but is broadly defined as “a method for structuring a group communication process so that the process is effective in allowing a group of individuals, as a whole, to deal with a complex problem.”⁸⁹ In this application of the Delphi method, the iterative consultative process builds consensus around strategic goals and processes amongst children, Save the Children staff and external experts. This process supports the creation of a Future-Fit Strategy, i.e. a strategy that enables Save the Children to be fit for the future by identifying horizon issues for children in a particular country or region, anticipating what programming is needed to address these issues, and outlining ways of working that allow Save the Children to be more innovative, collaborative and adaptive.

The process described in this tool is targeted at country-level and regional-level offices within the Save the Children family. However, it requires a skilled external facilitator to coordinate the Delphi questionnaires, analyse the results, and facilitate each stage of the process, including the final workshop in Stage 5. It is envisioned that this role would be filled by an analyst based at the Humanitarian Affairs Unit, who could in turn pull the learning from this process up into global strategic planning processes. It is envisioned that this tool would be revised by the HAU after review and input from Save the Children country office and regional office staff.

⁸⁹ Linstone & Turoff 1974, p.3. This volume is considered the primary authoritative text on the Delphi method; the diversity of approaches represented in its chapters is an appropriate reflection of the many ways in which Delphi can be applied to suit the user’s needs and goals.



Participants

- 1 HAU regional analyst
- 1 country office or regional office staff
- An expert panel of 30-45 individuals with geographical expertise on the relevant topic (e.g. urbanisation if the topic is urban issues). This panel may consist of the advisory group recommended as a fixture for country- and regional-level analysis in Section III of the Report.
- A child consultative group of 15-20 children that receive or have received Save the Children assistance.

Objectives

- Identify the most important future risks for urban children,
- Develop the priority actions that Save the Children should take to address these risks, and
- Identify the ways of working, or, processes, that Save the Children should adopt to make its work with urban children more sensitive to changes in the urban environment.

Outcomes

- Country and regional strategies that are better at guiding Save the Children to address new challenges and take on new opportunities
- Improved accountability to children
- Greater incorporation of scientific and research expertise into strategic planning and programming

Timeframe

Assuming that a Delphi method expert is available at the outset for consultation on questionnaire design and data analysis, the time frame for this process from start to final workshop is estimated to take 6 months.

Stage 1: First round Delphi questionnaire with children

In the first stage, children set the agenda through an open-ended questionnaire asking for their views on key issues that they feel are important for their rights and welfare in the future. Save the Children currently has several resources on child participation and consulting with children that could be used to inform the development of this questionnaire as well as instructions to staff on how to use it with children. These resources include:

- *Guidelines for Children's Participation in Humanitarian Programming*
- *Child Friendly Spaces in Emergencies: A Handbook for Save the Children Staff.*
- *Consultation Package and Facilitator's Guide for Reviewing the draft General Comment on State Obligations regarding Children's Rights and the Business Sector*
- *Children Know So Many Things That Even We Didn't Know: Consultations and Child's Participation In Myanmar*
- *Participatory Research With Children in Conflict With The Law—Ethiopia*
- *Children and young people in action, participating in budget work*
- *So You Want to Involve Children in Research? A toolkit supporting children's meaningful and ethical participation in research relating to violence against children*
- *So You Want to Consult With Children? A toolkit of good practice*
- *Save the Children's Practice Standards in Child Participation*

It is recommended that the HAU draft the first round questionnaire in consultation with a Delphi method expert and Save the Children Sweden, who have specific expertise within the Save the Children family on consulting with children. The HAU may, for example, wish to instruct staff to begin the questionnaire with an overview on rights and children's rights, if these topics have not been discussed in detail with the children participating in the Delphi questionnaire.

The literature on the Delphi technique generally recommends that first round questionnaires are left open-ended, to allow for as much creative input as possible from participants. This is consistent with Save the Children's current participatory practices with children, which use open-ended surveys. Some potential questions that the HAU analyst could include on a

questionnaire used for a consultative process around urbanisation are listed below. They may require preparatory work with children to define the basic terms or concepts, such as risk or rights.

1. [Warm up question] What do you want your life to be like in 15 years? What do you see yourself doing? Where are you living? What is your community/neighbourhood like? How is your family doing?
2. [Identifying priorities] What do you feel you need in order to have your life be like what you want it to be in 15 years?
3. [Identifying priorities] What changes would you like to see in your city in 15 years that would make people safer from disaster?
4. [Identifying challenges] What are the biggest risks that you think you will face while living in your city in the next 15 years?
5. [Identifying opportunities] What are the most important benefits that you see to Save the Children working in your city?

Stage 2: Identifying areas of agreement and disagreement with experts and staff

In the second stage, a second-round Delphi questionnaire is drafted based on the results from the first round questionnaire. Participants in the second round—in this case, external experts and Save the Children staff from the relevant country or regional office—are then asked to rate these items in order of their importance, or their level of agreement or disagreement with the item’s relevance. Often times a 5-point Likert scale is used for second-round questionnaires. For example, if children listed ‘flooding’, ‘gang violence’ and ‘earthquake’ in response to question (4) above, then a second-round questionnaire might include something as follows:

Future Urban Challenges: On a scale of 1-5, where 1 = ‘Very Low’ and 5= ‘Very High’ please rate the probability and impact of the following hazards.		
	Probability	Impact
Flooding		
Gang violence		
Earthquake		

Based on the results from this questionnaire, the HAU analyst will be able to identify areas of consensus amongst experts and Save the Children staff on the issues identified by children. Prior to beginning this Consultative Process, Save the Children will need to identify the degree of consensus that they wish to seek in order to identify certain issues as agreed. This metric would be applied in Stage 2 to structure the results of the second round questionnaire and highlight areas of agreement and disagreement. It will also be interesting to see areas in which Save the Children staff agree or disagree with experts on the issues identified by children. To facilitate greater understanding, the second round questionnaire should include boxes for participants to offer reasons in favour of their ratings, and possibly also to list issues that they felt should be included. This stage ensures that the identification of strategic priorities is a

process shaped by external expertise (*expert-shaped*) and owned by Save the Children staff (*Save the Children-owned*)

Stage 3: Reviewing with children

Save the Children staff will take a summary of the results from the second-round questionnaire provided to them by the HAU analyst and present this again to the child participants to ask them to rate the top agreed items as well as any new issues identified by Save the Children staff or external experts. Here, children will also be given the chance to explain the reasons in support of their ratings, or explain why the reasons listed by experts or Save the Children staff do not make sense to them or are insufficient to sway their opinion.

This can be a particularly crucial stage for ensuring that the strategy that emerges from this process is *future-focused*. This stage allows children to interrogate the assumptions and reasons that underpin the opinions and perceived priorities of experts and Save the Children staff, leading to new understandings and questions about what Save the Children will need to do to prepare for future humanitarian issues.

Stage 4: Fourth round questionnaire with experts

In stage four, experts are provided a final opportunity to review the children's ratings and revise their own ratings in light of these findings. While only slight increases in the degree of consensus can be expected, this is an important step in ensuring that the final strategy reflects the considered judgments of relevant experts.

Stage 5: Developing a future-fit strategy

In the final stage, Save the Children country or regional staff will join with the child participants in a final workshop facilitated by an HAU analyst to identify the final set of priorities, recommended actions and future-fit ways of working.

This workshop should be designed in partnership with child consultation experts within Save the Children, with the agenda of issues to discuss being drafted based on the 4th round of the Delphi process (the results from the Stage 4 experts questionnaire).

The participants can be split into three or more groups, with each group assigned one of the issues found to generate the greatest consensus. Some suggested discussion questions are included below, but these should be assessed in terms of their appropriateness for use with children.

Favourable outcome/Preferred future:

If things went well, being optimistic but realistic, talk about what you would see as a desirable outcome/preferred future around this issue [in XXX year of your choice]

Describe the key events and steps that need to occur to achieve the preferred future & map these on a timeline. You may find it helpful to distinguish between:

External factors: aspects in Save the Children's external environment. These can include factors that are both within Save the Children's capacity to influence or control, and those that are outside your office's capacity to influence or control.

Internal factors: Looking at internal systems, how might organisation culture and ways of working need to be changed to help bring about the desired outcome?

Unfavourable outcomes/Non-preferred futures:

As the converse, if things went wrong, what would the situation for children look like with respect to this issue? Identify 2 distinct 'non-preferred' situations around this issue.

Annex 4: Shared Urban Futures: A 5th scenario exercise for humanitarian and development personnel

These introductory pages are for the Facilitator of this exercise. Participants can be given the Scenario Pack, which contains instructions for their discussion in Session 1 and a brief introduction into scenario methodology.

Introduction to the 5th Scenario exercise

5th Scenario exercises are particularly useful for building cohesion and promoting cooperation amongst individuals with different perspectives or skill backgrounds. They consist of a “workshop-based discussion where participants use elements from an existing set of four scenarios to describe their preferred future and the steps required to deliver it. The approach allows policy makers and strategists to develop a ‘customised’ scenario which builds on the strengths, and overcomes the weaknesses, of the existing scenario set; and to describe the steps they will take to deliver it.” 5th Scenario exercises are useful for structuring a strategic discussion between humanitarian and development personnel at Save the Children, as they focus attention on comparative strengths and weaknesses of participants’ approaches while guiding participants towards the aspirational aim of identifying an ideal yet plausible shared future.

Objectives

- Evaluate current policies and tools in terms of their suitability for plausible urban environments in 2035
- Identify shared strengths and opportunities between humanitarian and development (programming) personnel for addressing children’s vulnerability and rights in an urban context
- Identify new ways of working to strengthen Save the Children’s capacity to address children’s vulnerability in the future, and rights issues in an urban context

Participants

This exercise has been designed for a minimum of 8 and a maximum of 20 participants. The most important consideration is to ensure that, whatever the number of participants, there is an equal proportion of humanitarian and programming (i.e. ‘development’) personnel attending. Each break out group should be comprised of 50/50 humanitarian/programming personnel, to the extent that this is possible.

Before the Exercise

Prior to the Exercise, participants should be provided with a copy of *Mapping the Way Forward* and instructed to read the thematic inserts that comprise Part 2 of Section 1.

The Facilitator for this Exercise will need to:

- Read through the Facilitator's instructions and the Scenario Pack in detail as well as Part 2 of the Mapping the Way Forward Report;
- Ensure copies of the Scenario Pack are provided to each participant on the day of the exercise;
- Provide large print-outs (A3 size) of the Scenario Analysis Template and the Shared Urban Future Template, or something similar (flip chart paper).

Agenda & Protocol

This is a 4.5 hour exercise (excluding breaks). The exercise may be slightly longer or shorter depending upon the number of participants.

Session 1 [90 min]: Scenario analysis

Presuming that the facilitator has a list of participants before the exercise, it would be worth dividing the participants into groups at the outset in order to save time. Each break out group should feature an equal mix of humanitarian and programming (development) personnel. Scenarios 1 & 3 are assigned to Group A and Scenarios 2 & 4 to Group B.

Each group should be instructed to read their Scenario Pack, which will provide them with an overview to the exercise and questions to structure their discussion. They should read only the scenarios that have been assigned to them. Answers to their questions should be written on large flip charts or large A3 size print-outs of the Scenario Analysis Template (see template provided below in the Scenario Pack). The template for the facilitator will enable he/she to fill in observations concerning the overarching objectives and mechanisms through which the participants collaborate or reach consensus.

Session 2 [60 min]: Discussion

Allow each group to select a representative and report back to the plenary on how they filled in their Scenario Analysis Template. Each group representative should have no more than 10 minutes to explain their answers to both scenarios.

Take 40 minutes to discuss the following:

- 1) Did answers in the 'Shared' row outweigh those that were humanitarian or programming specific? To what extent were some answers specific to humanitarian or programming, and could they in fact be shared?
- 2) Are there gaps that either humanitarian or programming personnel have in their approaches that the other side could help fill?

- 3) What are the current barriers for collaboration and cooperation and how might these barriers exacerbate the challenges identified in these scenarios?

Session 3 [30 min]: Selecting the Preferred 4th Scenario

Each group has selected which of their 2 scenarios they feel is most preferable. At the beginning of Session 3, each group should take 5 minutes to read through the scenario that the other group discussed in detail and identified as most preferable.

The group should then compare these two scenarios to one another, discussing for 20 minutes which scenario seems most plausible to occur and why. In a situation where participants cannot agree on any single scenario, the facilitator should seek a vote, after which the pros and cons of the respective decisions are clearly articulated and noted.

Finally, take a vote to select the preferred scenario.

Session 4 [45 min]: Creating the 5th Scenario

Using the 5th Scenario Template, consider the scenario selected in the previous session as the preferred and most plausible future urban scenario. Fill in the first Table by answering:

- 1) What events or aspects in the scenario do we feel should happen? Identify four steps or events required to ensure that this happens.
- 2) What must not happen in this scenario (what don't we like about it)? Identify four steps or events required to prevent this happening.
- 3) What would we like to see happen (what features from the other 3 scenarios might we want to see incorporated here)? Identify four steps or events required to see that this happens.

Session 5 [45 min]: Identify Responsibilities and Next Steps

Moving on to the other three tables, fill in the steps/events identified in the first table and identify:

- 1) Who is responsible for the "must happens," "the must not happens", and "the would like to happens"?
- 2) What do you need externally to achieve the must happens and the would like to happens?
- 3) What should the responsible parties do now (action points)?

This is to be read individually or out loud within the break-out groups at the start of Session 1.

Welcome to the Save the Children Shared Urban Future exercise and thank you for the time you've committed to this discussion today. This is a scenario exercise intended to help you evaluate how effective your current strategies and ways of working will be for addressing the future challenges and needs that Save the Children will face in urban settings. This Scenario Pack provides you with all the resources you will need to guide you through the break-out components of this exercise. The Facilitator for this exercise will guide you through the plenary group discussions.

Before reading the specific scenarios and questions devised for this exercise, you may wish to review the following introductory information on scenario exercises, their uses, and the main objectives of this particular exercise.

What is a scenario?

Scenarios are plausible but speculative descriptions about the future. They offer answers to 'what if...?' questions, painting a picture of what might be in the future, given certain trends or assumptions. Scenarios can be developed through many methods for many contexts and uses and begin with the identification of a problem, question or particular context. In a second step, scenario developers analyse the drivers for change around the selected question or context and identify two or three that form the basis for the scenarios. The Humanitarian Futures Programme (HFP) has done this as Phase 3 and 4 of its Urban Futures Project with the Humanitarian Affairs Unit at Save the Children International (SCI). The following scenarios are depictions of an urban future, based on the plausible outcomes of two major drivers for urban change, the development of ICT and the rate and scale of urbanisation.

What are scenario exercises?

Scenario exercises provide participants with the opportunity to test and assess their ways of working (their strategies, tools, assumptions, partnerships) in unfamiliar situations and explore ways of shaping the future to be more desirable to them. There are three main types of scenario exercise, depending on what purpose the scenarios are used to achieve:

- **Predictive scenarios** provide forecasts of the future, typically with probabilistic information about which potential future scenario is most likely to occur. These are used to answer 'what will happen' in the future and are used for contexts or problems in which there is a good availability of data and fewer unknown variables affecting outcomes.
- **Exploratory scenarios** tackle contexts and problems where the future is more uncertain. They look at 'What can/might happen' and provide participants with the opportunity to explore alternative paths of change.
- **Normative scenarios** focus on the desirable future and how to achieve it. Participants analyse the threats and opportunities relating to a goal in a future context and devise strategies to reach this goal.

What are the purposes of this scenario exercise, Save the Children's Shared Urban Future?

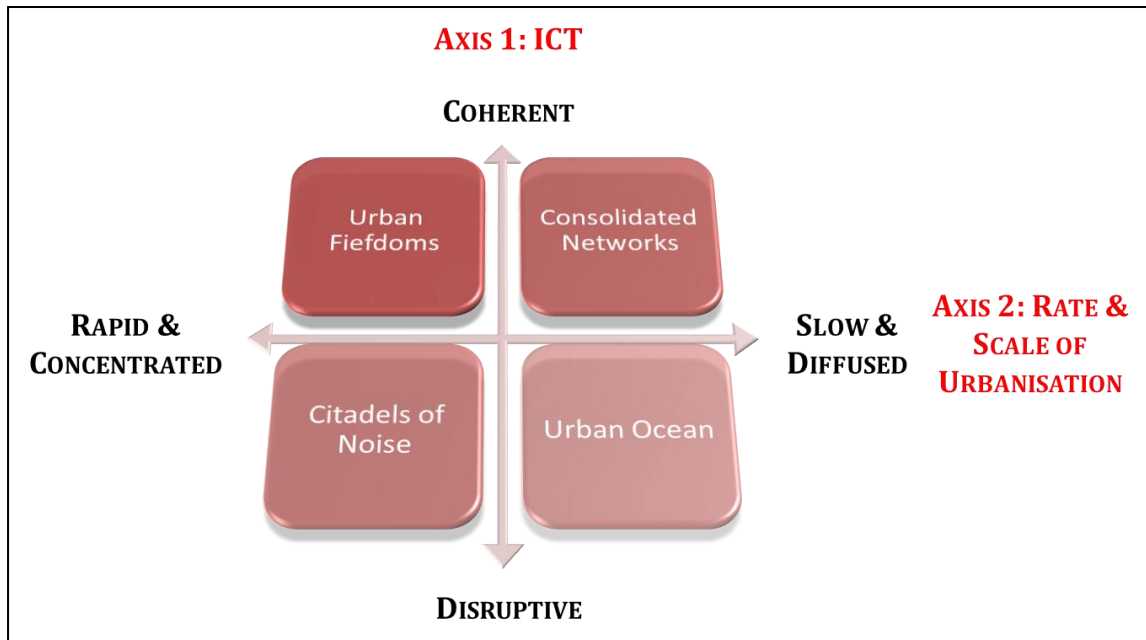
This exercise is a 5th scenario exercise. It is both exploratory and normative. The purpose of the first half of this exercise is exploratory: it is intended to help you think about the different urban landscapes you may encounter in 2025 and consider what new challenges and opportunities these different landscapes present for your current ways of working. The second half of the exercise is normative: it will ask you to create your own 5th scenario that represents your desirable and plausible urban future.

If you work in **development programming**, you might think about the following scenarios in terms of risk analysis and resilience: what development priorities might you have in these contexts and what resources and skills would you need to have to ensure that any programming outcomes are resilient to external shocks and crises.

If you work in **humanitarian or emergency programming**, you might think about the following scenarios in terms of what opportunities and challenges they would offer in a disaster response. While these scenarios do not describe emergency situations, they include descriptions of risk drivers and early warning indicators. They paint a portrait of the kind of urban context that will be the site of future disasters to which Save the Children will need to respond. In considering these scenarios, you may find it useful to imagine a disaster occurring in this environment and to think about what you would have wanted to know or have prepared for before entering the environment in a response role.

Introduction to the scenario matrix for Save the Children's Shared Urban Future

The scenarios used in this exercise were developed based on two drivers for urban change over the next two decades: the way in which *ICT* innovations are harnessed (Axis 1) and the *rate & scale of urbanisation* (Axis 2). These two drivers were selected for their high expected impact on urban landscapes and for the great degree of uncertainty as to how they might evolve.



Instructions for Session 1

Read the 2 scenarios assigned to your group (either Urban Fiefdoms and Urban Ocean or Consolidated Networks and Citadels of Noise). Once you have read these, discuss the following questions, filling in your answers on the provided flip chart or the enclosed template specifically designed for this exercise. When answers to these questions are uniform across humanitarian and programming personnel, write them in the 'Shared' row in the template. If humanitarian-specific or programming-specific answers to these questions are identified, write them in the corresponding rows. If on the other hand there is disagreement within individual groups, i.e. humanitarian, development, please note these separately. Identify a person to be the feedback point to the main group once everyone returns to plenary.

1. What do you see as the key issues impacting children (child rights and vulnerability) in these scenarios?
2. How would you try to address these issues?
3. Reflecting on the policies and tools you as an individual currently use on a day-to-day basis:
 - a. What is missing or inadequate about your current policies and tools for addressing the key issues identified in question 1?
 - b. Who would you need to work with and what resources would you need in order to deal with these issues effectively?
4. Which of the two scenarios is more preferable to participant groups?

Projections that the world will see 70% of its population living in 'mega-cities' by 2050 seem to be on target, as urbanisation continues to evolve in geographical centres featuring high population density. The increase in city populations, rather than an increase in lateral urban sprawl or a growth in peri-urbanisation, has been the result of a combination of factors, primarily around innovations in sustainable urban development, government investment in ICT infrastructures, climate change, and the location of capital investments.

The new set of MDGs agreed upon in 2015 focused on sustainable development, leading to an increase in aid funding for innovation in sustainable technologies. Most notably, this has led to the 'greening' of many cities in lower- and middle-income countries. Vertical farms and the use of 'cool' pavement materials and green roofs has meant that the 'heat islands' projected to become a significant hazard in urban areas have not materialised. The spontaneity and openness of the internet in the early part of the 21st century has given way to a considerably more controlled and coherent system. Internet security is no longer a matter left to private individuals but is a significant area of economic activity in which one subscribes to an internet security firm, who holds and protects one's data. Online data and identities are also insured, to protect the user in case of identity theft. In this context, virtual security is a significant area of employment, particularly for young people, and it is common for children under the age of 18 in urban areas to earn funds at local computer labs by working for these firms.

Governments have invested in ICT infrastructure, however, faced with limited resources they have opted to provide high-quality ICT to the highest number of people by focusing on urban centres and largely ignoring rural areas. This led to a significant inequality in the speed and quality of internet connection between urban and rural areas, further incentivising a move to the city. National-level pro-urban legislation has resulted in a shift of political power from national to city or municipal political institutions and politicians, creating what is sometimes referred to negatively as 'urban fiefdoms.' These centres are heavily policed and regulated through advanced central control systems, in which trillions of data on urban citizens and their movements, purchases and behaviours are gathered on a daily basis.

As ever, the benefits of these innovations and opportunities are not shared equally by all. In part as a way to avoid daily scrutiny by the government, many lower-income individuals choose to live outside 'green' zones in areas that are less formal and less policed, yet still very geographically close to the wealthy and more developed parts of the mega-city. Malnutrition is high in these areas, and there is an enhanced rate of crime that at some points reaches levels of violence and death comparable in some cases to a war zone. Because many child protection strategies are implemented using government ICT systems, it has paradoxically become even harder to identify and prosecute those who violate children's basic rights to physical safety.

Within this context of urban fiefdoms, NGO relationships with city governments, who enjoy a great deal of power and financial capital, are often rocky. There is still the perception that NGOs and their own technologies collect data for the government, making access to the 'off the grid' pockets in mega-cities more difficult. However, the data collection capabilities and ICT infrastructure provided by city governments also provide a number of opportunities, many of which are currently untapped by Save the Children.

Since 20th century urban planners tried to first understand urban dynamics, it had been a maxim that cities grew because of the economic opportunities they offered and not because economic opportunities were attracted by cities. It is with this in mind that the economic opportunities offered by this present urban environment in 2035 said so much about its development.

Since 2010 the industrial diversity of this urban landscape was one of the sources of its wealth and ultimately its increase in population. Over the past two decades a steady stream of peoples from different cultural and national backgrounds have settled in the city, happy to take advantage of the range of manufacturing opportunities that were increasingly being offered, particularly in the electronic, energy and information and communications sectors.

While these industrial sites were dispersed in various parts of the city, they attracted “locals,” those who were in villageised communities, of which these industries were a part. This sense of community was fostered by both local and city authorities, and was reflected in the careful development of the urban infrastructure which took into account the transport and health needs within and across communities.

The seeming coherence with which ICT innovations and advances for human development were applied and the planned growth of the city does not mean that there are not pockets of severe deprivation. While much of urban planning has been undertaken with goals and values of social justice and greater equality in mind, municipal authorities struggle to cope with the increase in population as well as an ever-volatile international economic system in which dips in the market have significant ripple effects through the industries that provide jobs to those in this expansive urban area. There has been a steady growth of areas of deprivation, called ‘slumscapes’ because they reached across many parts of the urban landscape, in many instances linking together various villageised communities. The authorities were well aware of the plight of those in the slums, and were equally aware that all too many found themselves forced to move to different parts of the city in order to find employment. Job permanence was not a feature of an economy that was becoming increasingly digitalised and robotised.

Despite their limited capacity, the authorities did make efforts to call upon those who could provide assistance in critical areas such as health and education to be sure that the city’s slogan, “The best of all cities for the best of all,” had substance and was perceived to have substance. In this regard, reluctantly but inevitably, they even were willing to engage with the informal ‘entrepreneurs’ who controlled social services in the slums to ensure availability to all.

A factor that had made the steady development of this metropolis relatively effective was the ability to maximise the use of ICT. No matter where portions of the population moved, while they struggle to cover the entirety of the geographic region now considered part of their ‘city’, authorities use technology to monitor individual families, not only their locations, but also nutritional and health status and other aspects of their daily lives. Educational opportunities are provided through ICT. The Internet’s effects also enabled local authorities to engage and collaborate more effectively with non-governmental counterparts, though the latter had to show willing. It was not a matter of coercion.

It is in the context of rapid urbanisation that many concerned authorities and non-governmental counterparts felt that the information and communications system (ICT), afforded by the now completely globalised reach of the Internet, would have positive impacts upon those who were typically excluded from the benefits of urban environments. Monitoring the needs of individuals virtually, using 'Bitcoins' and other cyber cash to assist the impoverished, advanced telemedicine to offer health wherever those in distress might be and education – continuous and always available – were seen as the benefits of ICT in the chaos of the urban construct.

However, what has evolved instead is often described as a cacophony. International capital remains focused on specific urban areas, resulting in the development of tall mega-cities rather than a more horizontal urban sprawl. Within these cities, devolution of responsibility for basic services and governance processes occurs at an increasingly localised level, sometimes down to individual city blocks or mega-sky scrapers. Neo-liberal approaches have dominated low- and middle-income urban development and the ushering in of ICT innovations for development purposes has helped to legitimise these approaches. Vulnerable individuals are expected to improve their lives through the technology bequeathed to them, which allows them to engage in 'the markets' of social services previously provided by the state. NGOs have struggled to identify to what extent they should partner with private providers, try to enhance the capacity of local governments to provide these, or continue to deliver such services themselves.

The lack of government regulation over ICT has resulted in the development of huge 'heat islands' in which temperatures can rise to well over 50 degrees Celsius for extended periods of time, resulting in mass deaths amongst the elderly and the very young. Flooding is a regular problem, which is why the poorest areas of the city are not defined by where they exist laterally, but where they exist vertically: the lower floors of the high-rises that comprise the city are occupied by the most impoverished, with wealthier individuals living several floors higher.

Cybercrime is a significant issue and is linked to material crime and violence. Gangs practice a combination of cyber and real-world crime and young people are frequently contracted into these gangs as a reliable source of income and security. The widespread nature of these gangs' reach, via cyber networks, is overwhelming, meaning that traditional neighbourhood-based approaches to engaging with gang members on their 'turf' is largely ineffective.

The problem that faces all those who want to help is that the governance systems that ostensibly have authority over this cacophonous city are themselves disjointed, with little effective means to engage with each other let alone with outside organisations. The government would like to have a detailed, block-by-block risk map in order to improve its DRR efforts, but it lacks the coordination within its own district offices to do this in a coherent way. An additional governance factor is that many of the communities that form this massive urban settlement are controlled by "an informal sector," or, those that only abide by and enforce their own laws when it comes to basic services such as water control and distribution.

The ubiquity of ICT, paradoxically, might be its undoing. The contending, competing and inconsistent information that seemed to be part of the ICT miracle of 2035 also was not without its hazards.

People do not speak of cities, but of city-regions: vast areas, sometimes encompassing most of an entire country, containing the moderate population density seen in cities in the latter part of the 20th century. These 'urban oceans' came about through the growth of peri-urban areas, and the increase in the availability of goods and services outside of traditional urban centres. Widespread increase in 3-D manufacturing and the enhanced capacity of this manufacturing has reduced the importance of urban centres as hubs for demographic flow.

Though supposedly "planned," the urban sprawl that spreads out in front of the observer seems disjointed and make-shift. Over an eight year period, more than 1.3 million people have become part of this loosely configured metropolis of now 8.7 million. Its "built environment" consists of villageised communities, reflecting in various ways the flows of immigration from rural areas and declining manufacturing centres to disaffected peoples from across neighbouring borders. If there were any linkages between these different villages, it was what some are calling the "slumscapes" – stretches of poor housing, limited infrastructure and grim sanitation – that seem to tie together extraordinarily wealthy neighbourhoods, the peri-urban and the urban villages.

Many of these city-region villages institute protectionist measures for local merchants and citizens, as a reaction to the insecurity associated with the internet-based market. Yet, the mobility of those who populate these villageised slumscapes is regarded as "extraordinary". One set of statistics suggests that more than 23% of all those who inhabit urban villages move either back to their original communities or to other parts of this massive conurbation every two years. In part this is due to the ever-increasing robotics-driven industries that leave more and more people in search of employment. Even the vertical farms that dot more and more of the urban landscape are relying more on automated farming and less on human beings. These sorts of unpredictable movements mean that in all too many instances efforts to provide even very basic services such as education and health care are regarded as frustrating if not futile to the bevy of local authorities and non-governmental organisations that each in their own ways try to provide assistance.

This sort of mobility has additional downsides. The new fibre optic manufacturing processes that more recently have drawn at least 14% of the adult population from rural areas into the metropolis have generated unanticipated diseases. These, when combined with more standard viral infections from poor sanitation and water quality, have led to serious epidemics that, in the words of one social worker, 'walk from one community to the other through these heaving settlements.'

Vulnerability to natural hazards in many of these areas is extremely high. While there are strong early warning systems in many urban sub-sectors (the 'villages'), they do not communicate with one another and there have been several instances in which lives lost in one village could have been saved if surrounding villages had communicated their early warning knowledge more quickly. There are also strong hostilities between urban villages, in part driven by long-standing ethnic or religious tensions, and heightened by the increased security risks and vulnerability experienced with ICT. In some parts of the world, these hostilities can spill over into all-out warfare over scarce water resources.