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Helpdesk Research Report

Urban humanitarian crises

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Question

Where and why are urban humanitarian crises happening? What analysis is available regarding future trends in relation to urban crises and how robust are these?

Contents

1. Overview

This rapid literature review looks at where urban humanitarian crises are happening, and why urban areas are particularly vulnerable to them. It also identifies future trends in urban humanitarian crises. For the purpose of this report, humanitarian crises mean any emergencies related to natural disasters, declared conflicts (as opposed to urban violence), epidemics, and technological disasters.[1]

The majority of the literature on urban humanitarian crises consists of reports by intergovernmental organisations and international non-governmental organisations (INGOs). The literature is relatively consistent, especially with regard to the vulnerability of urban areas to climate change-related natural disasters and epidemics.

The degree to which a city is vulnerable to humanitarian crises depends on location-specific physical, social, economic and environmental factors. The literature suggests that geographically, cities in Asia are the most vulnerable to natural disasters. Asian cities also experience the most diverse range of natural disasters.

[1] Examples of technological disasters include building collapses, aeroplane crashes, ferry-boat sinkings, and fires.

The main causes of urban vulnerability are often inter-related. Those identified in the literature include:

- **Physical location**: Cities built along the coast, or on fault lines are particularly at risk. An increase in extreme weather events as a result of climate change has exacerbated the existing vulnerabilities of many cities.
- **Poor infrastructure**: Much of the world's urban population lives in informal settlements or slums that are particularly vulnerable to natural disasters. These settlements are also at high risk of fire.
- **Overcrowding and poor sanitation facilities**: The large number of people living in informal settlements with poor sanitation facilities increases the risk of epidemics in urban areas.
- **Strategic importance**: Cities are of strategic importance in both inter- and intra-state conflicts. As controlling them can be a key priority for warring parties, they often experience insurgency and urban terrorism.
- **Radicalisation**: This increases the risk of religiously motivated terrorist attacks in urban areas.

There is widespread concern that **climate change** will increase the number and severity of urban humanitarian crises in the future. Increased food and water shortages in urban areas – a result of droughts caused by rising temperatures – are also predicted. **Conflict over resources** could lead to increased risk of armed conflict. The nature of conflict is also likely to change, with new forms of conflict, such as **urban violence**, becoming increasingly prevalent. **Rapid population growth** is likely to result in an increase in the number of epidemics in urban areas, due to overcrowding and poor sanitation in informal settlements.

2. Where and why urban humanitarian crises are happening

A report based on discussions held at the 27th meeting of the Active Learning Network for Accountability and Performance in Humanitarian Action (ALNAP) on *Meeting urban challenges,* and on a review of the recent literature on urban crises, states that humanitarian crises are often the result of a trigger event, such as an earthquake, combined with the underlying vulnerability of the population to that event (Ramalingam and Clarke, 2012, p. 6). While the trigger event is often the same in urban and rural areas, the underlying vulnerability to disasters can be higher in urban areas due to overcrowding, poverty, and poor infrastructure (Ibid, p. 6).

UN-HABITAT argues the extent to which any city is vulnerable depends on physical, social, economic and environmental factors that are location specific (2012, p. 124). While much of the literature suggests that *natural* disasters will have the greatest impact on poor urban areas, *technological* disasters are more likely to occur in richer cities (Cohen, 2009, p. 36).

The size of a city is also thought to impact on its vulnerability to humanitarian crises (Zetter and Deikun, 2010, p. 5). One study, based on the findings of the Meeting Humanitarian Challenges in Urban Areas Task Force of the Inter-Agency Standing Committee (IASC) Working Group, found that while more people will be affected by humanitarian crises in large and mega-cities in absolute terms, medium and small cities in developing countries are more predisposed to humanitarian crises (Ibid). This is because they have fewer resources, and they have seen limited investment in infrastructure and urban services, such as water supply, solid waste management systems and health services (Zetter and Deikun, 2010, p. 6).

Sometimes one disaster can trigger another. An example of this is the 2011 Great East Japan Earthquake, which triggered a tsunami, which led to the meltdown of nuclear reactors in Fukushima (UNESCAP and

UNISDR, 2012, p. 89). Emergencies such as flooding and earthquakes can also result in health and nutrition crises, creating so-called 'stress bundles' in urban areas (Zetter and Deikun, 2010, p. 5). Large-scale sudden displacement as a result of conflicts and disasters in rural areas can increase overcrowding and competition over resources in urban areas, augmenting the risk of urban crises (Zetter and Deikun, 2010, p. 6).

Some argue that Asian cities are particularly vulnerable to natural disasters (UN-HABITAT and UNESCAP, 2010, p. 21). In the 20th century, 91 per cent of all deaths resulting from natural disasters occurred in Asia (Ibid). Moreover, urban areas in Asia are at risk of the widest range of natural disasters, including earthquakes, typhoons, flooding, storm surges, and tsunamis (Swiss Reinsurance Company, 2013, p. 21).

Although vulnerability to humanitarian crises varies from city to city, the literature identifies a number of inter-related factors that impact on urban vulnerability:

Physical location

The physical location of a city is thought to be a key factor determining its vulnerability to natural disasters. In Latin America, many informal settlements are built in risk areas, such as close to volcanoes, on an instable slope, close to the sea, in areas prone to flooding, or on unsuitable soil types (UN-HABITAT, 2012, p. 126). This is significant because the impact of an earthquake is greater when settlements are built on land with deep layers of clay, sand, and gravel, which increase seismic waves. An example of such a settlement is Mexico City (UN-HABITAT, 2012, p. 124).

Manila, Philippines is an example of a city that is particularly prone to natural disasters due to its location on several fault-lines. As a result of its position on a major fault line, Port-au-Prince is also very vulnerable to earthquakes (UN-HABITAT, 2011, p. 12). Other cities that are at high risk of earthquakes are Tokyo, Japan; Jakarta, Indonesia; Los Angeles, USA; and Osaka, Japan (Swiss Reinsurance Company, 2013, p. 11). Other lesser known earthquake prone areas are Central Asia, and the Northern Anatolian fault in the Middle East. In terms of urban areas, Tehran, Iran and Tashkent, Uzbekistan are highly exposed to earthquake risk (Ibid).

Many large African cities lie on the coast and are vulnerable to sea level rise, saline penetration, storm surges, flooding and coastal erosion (UN-HABITAT, 2014, p. 46). In Latin America and the Caribbean 60 of the 77 most populated cities are by the coast (UN-HABITAT, 2012, p. 122). In Western Africa, cities such as Kano, Nigeria; Niamey, Niger; and Lagos, Nigeria are at high risk of flooding (UN-HABITAT, 2014, p. 111). In Asia, Bangladesh and Burma have suffered from storm surges (Cohen, 2009, p. 16).

Climate change is thought to be responsible for an increase in the number of extreme weather events affecting many urban areas worldwide, thereby exacerbating the existing vulnerability of cities resulting from their physical location (IFRC, 2010, p. 117).

Physical location also has an impact on the extent to which urban areas are vulnerable to armed conflict. Transboundary cities like Goma, which lies in the DRC on the border with Rwanda, are particularly vulnerable to conflict (UN-HABITAT, 2014, p. 35).

Poor infrastructure

According to a 2006 UN-HABITAT report, more than 1 billion people live in slums (2007, p. 13). More than 90 per cent of these slums are in the global south (Ibid). The prevalence of these informal settlements, which suffer from a lack of basic infrastructure and services, increases urban areas' vulnerability to humanitarian crises (Duijsens, 2010, p. 354). For example, poor infrastructure in Manila's slums means that people living there are disproportionately affected by natural disasters (UN-HABITAT, 2011, p. 12). Another example is Port-au-Prince. Buildings in the city are built of reinforced concrete to make them hurricane resistant, but using this material makes them very vulnerable to earthquakes. Moreover, poor quality building materials, a lack of building standards, inadequate construction techniques, and the use of unskilled labour in construction also reduce the earthquake resistance of the majority of buildings in the city (Ibid). Poor infrastructure in urban areas can also result in increased fire risk (UNESCAP and UNISDR, 2012, p. 24). According to a report by the International Federation of Red Cross and Red Crescent Societies (IFRC), poor infrastructure is a result of short-comings in urban governance (2010, p. 142).

Overcrowding and poor sanitation facilities

Overcrowding and poor sanitation facilities contribute to outbreaks of communicable diseases and other health emergencies (Zetter and Deikun, 2010, p. 5). This is thought to be compounded by poor access to medical services (UN-HABITAT and UNESCAP, 2010, p. 20). According to a paper in The Lancet, high population density increases vulnerability to influenza, measles, and tuberculosis as well as to other diseases spread via respiratory and faecal-oral routes (Alirol et al, 2011, p. 132). Unsafe water sources and poor sanitation are the principal factors behind diarrhoeal infections and can lead to cholera endemicity[2] (Ibid). Moreover, over-flowing open drainage gutters in urban areas can spread water-borne diseases such as leptospirosis[3] (Ibid).

Some of the literature identifies dengue fever as a disease that has spread significantly within and between cities. The disease is spread by the *Aedes aegypti* mosquito, which thrives in tropical urban environments. The number of serious outbreaks of the disease has been on the increase. For example, Venezuela reported over 80,000 cases in 2007 (IFRC, 2010, p. 104).

In the past decade Asian cities have experienced outbreaks of viral diseases such as severe acute respiratory syndrome (SARS) and avian flu (UN-HABITAT and UNESCAP, 2010, p. 20). According to a report by UN-HABITAT and UNESCAP, the risk of a major pandemic in Asia remains high (Ibid). In Africa, low access to improved sanitation in informal urban settlements also increases the risk of diseases (UN-HABITAT, 2014, p. 34).

Strategic factors

Cities – especially capital cities – can be important territory in conflicts between international actors, such as in Iraq and Afghanistan in recent years (Beall et al, 2010, p. 2). Controlling cities can be a key priority for insurgent groups seeking to resist invasion by external powers. They can use urban terrorism as a means of maximising casualties on the invading side (Beall et al, 2010, p. 2). In civil conflicts, rebel groups often

[2] Disease prevalence in a particular region.

[3] Leptospirosis is spread from animals to humans via water contaminated with the urine of animals infected with the leptospira bacteria. For more informations see:
http://www.nhs.uk/conditions/Leptospirosis/Pages/Introduction.aspx

target cities because controlling them provides leverage in negotiations with central governments (UN-HABITAT, 2014, p. 35). African cities that have been affected by conflict in recent years include Mogadishu, Somalia; Kano, Nigeria; Nairobi, Kenya; and a number of cities in Mali, including Timbuktu. (Ibid).

Radicalisation

According to UN-HABITAT, religious radicalisation has made cities vulnerable to terrorist attacks. In Africa, terrorist attacks in Kenya and Nigeria have resulted in significant death tolls. Examples include the Al-Shabaab[4] attack on the Westgate shopping mall in Nairobi in 2013 and attacks by the radical Islamist group Boko Haram, in Kano, northern Nigeria (UN-HABITAT, 2014, p. 35).

3. Future trends in urban crises

The literature on future trends in urban crises largely consists of comprehensive reports by inter-governmental organisations such as the UN and the World Bank, and international non-governmental organisations such as the IFRC and World Vision. These reports draw on a wide range of sources. The most extensive body of literature deals with the future impact of climate change on urban areas. The literature on this topic is very consistent in terms of its findings. The literature on future trends in urban conflict is less conclusive.

The global urban population is set to reach 6.3 billion by 2050 (OCHA and DARA, 2014, p. 22). As a result, disasters and conflict will have an increased impact on urban areas. According to the IFRC, in the future, the number of casualties as a result of floods and earthquakes is likely to be greater in rapidly growing cities with high exposure to natural and public health hazards (IFRC, 2010, p. 48).

According to a report by the World Bank, climate change is thought likely to have a significant impact on the nature and impact of future urban crises (2011, pp. 3 - 4). The extent to which key stakeholders are able to address the challenges posed by climate change (adaptive capacity) will have an impact on individual cities' vulnerability to natural disasters occurring as a result of climate change (IFRC, 2010, p. 117).

A report by UN-HABITAT and UNESCAP states that climate change will increase the risk of storm and flood damage in many Asian cities (2010, p. 21). According to the Asian Development Bank (2012), 410 million people living in urban areas in Asia will be at risk of coastal flooding by 2025. An OECD study finds that globally the cities that will experience the greatest increase in flood risk by 2050 are cities with a relatively low flood risk at present. Those cities are: Alexandria, Egypt; Barranquilla, Colombia; Naples, Italy; Sapporo, Japan; and Santo Domingo, Dominican Republic.[5] The maximum wind speed of typhoons is expected to increase as a result of climate change (OCHA and DARA, 2014, p. 20) increasing the vulnerability of cities already susceptible to tropical storms.

In coastal cities the salinisation of drinking water and of groundwater supplies may become a concern (IFRC, 2010, p. 119). Rising sea levels resulting from climate change will increase the likelihood of drawing in saline water for municipal water supply systems. (IFRC, 2010, p. 119).

[4] A Somali Islamist group.
[5] http://www.worldbank.org/en/news/feature/2013/08/19/coastal-cities-at-highest-risk-floods

Many African cities are expected to experience water shortages in the future (UN-HABITAT, 2014, p. 48). Climate change induced droughts may affect cities such as Bamako, Mali; Dakar, Senegal; Douala, Lagos, Nigeria; Niamey, Niger; and Ouagadougou, Burkina Faso (UN-HABITAT, 2014, p. 134). Many South American cities, such as Quito, Ecuador, are also expected to experience water shortages during dry seasons, due to retreating glaciers (IFRC, 2010, pp. 119 - 120).

Another possible impact of climate change on urban areas is an increased risk of migration from rural areas, caused by crop failures (IFRC, 2010, p. 117). An IASC Task Force finds that climate-change related natural disasters are likely to lead to population displacement and new patterns of intra- and inter-urban migration (Zetter and Deikun, 2010, p. 5).

According to a report by the OCHA and DARA, the combination of rapid urbanisation, a growing youth population, and low availability of cropland and fresh water can increase the risk of civil conflict (2014, p. 21). For example, Eastern African urban populations face increased or intensified conflict and competition over resources and services (UN-HABITAT, 2014, p. 159). Moreover, religious conflict is likely to increase in informal settlements in Lagos and Kano in Nigeria, as a result of increased residential segregation and weak governance structures (UN-HABITAT, 2014, p. 35).

However, according to Beall et al (2010, p. 2) civil wars, which in the past tended to occur in rural areas and drive urbanisation, are in decline whilst civic conflicts[6] in urban areas are on the increase (Beall et al, 2010, p. 2). Hence, civil wars in the future are likely to be increasingly urban in character. Beall et al argue that in countries that have experienced civil war in the past and where people do not want to experience another prolonged rural insurgency, people are more likely to express their grievances on city streets (2010, p. 3).

Epidemics in poor urban areas may become more frequent (Alirol et al, 2011). For example, it is predicted that urban yellow fever may re-emerge in Latin America in coming years, especially in coastal regions where people have not been vaccinated against the disease. In African cities influenza viruses are likely to present a problem in the future. Some diseases, such as chikungunya,[7] may become restricted to urban areas (Alirol et al, 2011, pp. 135 - 137).

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[6] Examples include: gang warfare, violent crime, terrorism, religious and sectarian riots, and riots and violent protests over perceived state failures (Beall et al, 2010, p. 2).
[7] A virus spread by the *Aedes* mosquito.

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Key websites

- Active Learning Network for Accountability and Performance in Humanitarian Action (ALNAP): http://www.urban-response.org/
- PreventionWeb: http://www.preventionweb.net/english/
- London School of Economics and Political Science – Cities and fragile states: http://www.lse.ac.uk/internationalDevelopment/research/crisisStates/Research/cafs.aspx

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