

Helpdesk Research Report

Impacts of urban crises in low-income versus middle-income countries

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Question

Do conflicts and disasters affect urban areas differently in low income countries when compared with middle income countries? What other factors influence how conflicts and disasters affect urban areas?

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1. Overview

National income is not widely analysed as a determinant of how conflicts and disasters affect urban areas. There are very few high quality, systematic studies of how conflicts or disasters affect urban areas that clearly differentiate between low-income and middle-income countries.

The evidence available on the effect of the overall level of economic development on disaster risk, the likely scale of economic and human losses to disasters, and the capacity of cities to respond to them, suggests that higher levels of economic development do not necessarily lead to reductions in **risk**, but are associated with **improved capacity to respond** to disasters and to **recover** from them.

The following income-related factors have been identified as significantly influencing the impacts of disasters and conflicts in urban areas:

- **Quality of infrastructure:** The impact of disasters in urban areas is considered closely associated with the quality of infrastructure, including healthcare, drainage systems and emergency services.

- **Government capacity:** Planning and response capacity for disasters directly affects the scale and impact of disasters in urban areas, but broader capacity and governance issues are also significant.
- **Informal settlements:** The proportion of the population living in informal settlements is considered a significant factor for disaster resilience.

This report also briefly discusses several other factors that influence the impacts of urban disasters, although they are not necessarily directly related to national income or do not make distinctions between low- and middle-income settings:

- **Population growth, density and migration** can drive vulnerability and be a source of conflict.
- **Inequalities and socio-economic status** can be a source of vulnerability and can result in different populations experiencing disasters differently.
- **Different types of hazards** affect urban areas differently.
- The **diversity of the national economy** can affect the impact of urban disasters and the ability to recover from them.

Limitations of the evidence base

Evidence of differences in how disasters and conflict affect urban areas in low- versus middle-income countries is limited. First, there is **limited rigorous evidence of the impact** of disasters or conflicts in urban settings, with few studies available of the global distribution of disaster risk for individual cities (Satterthwaite, 2011; UN-HABITAT, 2007; Dodman et al, 2012; Guha-Sapir 2014 expert comment¹). Second, the available literature **does not typically distinguish between low- and middle-income countries**, but instead often treats them together, and in comparison with higher income countries. Third, most of the literature that does differentiate between low- and middle-income countries does so at the **country level**, rather than focusing on urban areas.

The lack of evidence differentiating between low- and middle-income countries is partly due to general weaknesses in the evidence base on urban disasters. According to the International Federation of Red Cross and Red Crescent Societies (2010: 48), “At present, it is not possible to understand the number of urban disasters, the extent of disaster impacts on urban areas or how trends in urban disasters differentiate between global regions.” Statistical reports for large-scale disasters often cannot specify the proportion of casualties or damage that occur in urban areas (IFRC 2010, p. 36; Jha et al., 2012: 16), and disasters affecting small urban settlements, or small-scale disasters in large cities, are often overlooked even though they can cause losses on a scale similar to large-scale disasters (UN-HABITAT, 2007: 177). In Latin America, national disaster data may have an urban bias and over-estimate impacts in cities, while Asian data may be less reliable in urban areas (UNISDR, 2009: 78).

There are also weaknesses in the evidence base about disasters more broadly. Disaster losses are often measured only by looking at mortality or direct economic impact, with limited assessment of longer-term human development impacts (UNISDR, 2009: 78). Information on the distribution and intensity of localised hazards is often unavailable (UNISDR, 2009: 78). Some types of hazards are neglected; for example there is a lack of data on the impacts of drought which means that mortality resulting from severe droughts is often omitted from databases (UNISDR, 2011: 59; UNISDR, 2009: 25). Reporting of smaller disasters is likely to be more complete in more recent times and in wealthier countries, while closed, undemocratic countries may under-report (Strömberg, 2007: 201).

¹ See appendix for personal comments from individual experts contacted for this report

2. National income and related factors

Several authors argue that levels of economic development influence how disasters affect urban areas (Mitchell et al, 2013; UN-HABITAT, 2007; Douglass, 2013). UN-HABITAT (2007) specifically contends that a city's *vulnerability* to disasters is shaped by its level of economic development, which in turn determines its disaster preparedness. Differences in impacts between middle income and low income countries may be greater for natural disasters than for civil conflicts (Guha-Sapir 2014, expert comment).

The relationship between national income and how disasters affect urban environments is not straightforward (Douglass, 2013). The following links between national income and urban crises have been identified:

- **Level of disaster risk:** Higher levels of economic development are *not* automatically associated with reduced disaster risk; in some cities, economic growth has in fact led to *increased* disaster risk (Satterthwaite, 2011: 4). This can happen, for example, where growth encourages urbanisation and in-migration, but there are no provisions to ensure good quality housing for expanding urban populations (ibid).
- **Human losses from disasters:** There is some evidence that cities with higher wealth have experienced fewer deaths and serious injuries from disasters (Satterthwaite, 2011: 4). This is attributed to the quality of housing, infrastructure and services in these areas (ibid). Likewise, UN-HABITAT (2007) argues human-made risk and recorded loss is highest in low-income countries, especially in sub-Saharan Africa.
- **Economic losses from disasters:** Cities with a higher value of assets and infrastructure are likely to incur greater economic losses from disasters than lower income cities (Douglass, 2013). Measured by standard values of working days lost, metropolitan areas in higher-income countries appear to be most affected by disasters (Swiss Re, 2013: 14). According to data from UN-HABITAT (2007: 190), economic losses from disasters are lower for Africa than for other regions, but are nevertheless high as a portion of GDP.
- **Capacity to respond to disasters:** Higher-income cities are considered more likely to be capable of responding to the aftermath of disasters, including through emergency response, while cities with lower levels of income often lack the capacity and resources to respond effectively (Douglass, 2013).
- **Economic recovery and reconstruction:** More developed urban and national economies may be better able to recover from natural disasters (UN-HABITAT, 2007). In particular, those with 'sizeable foreign currency reserves, high proportions of insured assets, comprehensive social services and diversified production are more likely to absorb the economic burden of disasters' (UN-HABITAT, 2007: 19). Countries with weak governments and economies find it more difficult to recover and reconstruct (both physically and socially) following urban terrorist acts (Beall, 2007: 7).

In the case of urban conflict, however, Beall (2007: 13) argues that differences in national income can be less important than the increasing inherent similarities among large cities in different countries with regard to inequality, urban violence, and social division.

Although the literature rarely distinguishes explicitly between low- and middle-income countries when discussing urban conflicts and disasters, some factors that correlate with national income, such as infrastructure, institutions, and state capacity, are discussed in more detail below.

Quality of infrastructure

The impact of disasters in urban areas is widely considered to be closely associated with the quality of infrastructure, including healthcare, drainage systems and emergency services, and lack of investment in these areas can increase disaster risk (Satterthwaite, 2011: 3). According to the 2009 *Global Assessment Report on Disaster Risk Reduction*, few low or middle income countries have the infrastructure or services to protect their citizens from hazards (UNISDR, 2009: 98). Others concur that poor urban infrastructure is a common problem in both low and middle-income settings (Dodman et al, 2012).

In low income countries in particular, land-use planning, infrastructure provision, refuse collections and emergency response are generally limited to wealthier, formal areas of cities (UNISDR, 2009: 98). In these cities, the risks faced by the urban poor are amplified by poor governance (ibid).

Countries with high rates of urbanisation combined with weak enforcement of building codes and inadequate regulatory frameworks for disaster risk reduction face the highest risk of mortality and economic loss from earthquakes, due to structural collapse of buildings (UNISDR 2009: 44). Likewise, the World Bank argue that rapid urban population growth alongside poor planning frameworks are the main driver of the high cost of disasters in the Asia Pacific region (World Bank, 2013). Where local/municipal governments are overwhelmed by rapid population growth, they sometimes ease development and building standards, leading to substandard housing which in turn increases urban vulnerability to disasters (Gencer, 2013: 36).

Government capacity for disaster preparedness and other state functions

According to World Bank data, low-income countries invest less than middle income countries in measures to reduce urban vulnerability to disasters (for example through urban land use planning, or training on safe construction) (World Bank, 2013: 4). Weaknesses in transportation networks and public safety (fire, police, medical) services result in reduced capacity to respond to disasters (Gencer, 2013: 27). Against flooding, for example, lack of preparedness (including poor management and maintenance of flood defences), lack of awareness among the population, and limitations in early warning systems lead to worse impacts on urban areas (Jha et al, 2012: 174). Based on a global assessment of disaster risk, Satterthwaite (2011) argues that large variations in levels in mortality from comparable disasters in different cities result from differences in how effectively governments developed disaster resilience.

State capacity and governance in other areas can also influence the impacts of disasters and conflicts. Well-governed cities have dramatically reduced the incidence of disasters and the scale of their impact (Satterthwaite 2011). Likewise, the *World Disasters Report 2010* concluded that where city and municipal governments have sufficient capacity, focus on their low income households and have good relations with their citizens, the possibilities for disaster risk reduction are greatly enhanced (IFRC, 2012). Violent civic conflict (the violent expression of grievances, which may be manifested through violent crime, gang warfare, terrorism, religious and sectarian rebellions, riots or violent protest) is 'generally linked to state failures to provide security, growth and welfare in urban areas' as well as urban density, diversity, and inequality (Beall et al., 2013: 3069).

Informal settlements

Some argue that the proportion of the population living in slums is a significant factor affecting levels of disaster resilience in urban environments (Mitchell et al, 2013). It is widely acknowledged that slum

dwellers are more likely to encounter disasters than residents of other urban areas. These settlements are often constructed in dangerous locations, and prone to landslides, flooding, seismic activity or industrial accidents (UN-HABITAT, 2007). There is also evidence that slum dwellers and informal settlers are typically most vulnerable to infectious diseases (Alirol et al, 2011: 133). Residents of informal settlements have limited access to material assets to help them to cope in the aftermath of disasters, and such settlements often lack municipal services and infrastructure such as transport networks, hospitals and fire and police services (Gencer, 2013: 27).

3. Factors other than national income

Population growth, density and migration

There is some consensus in the literature that urbanisation is a driver of increased vulnerability and risk. One quantitative study found that urban areas with higher population growth rates experience significantly higher human losses from disasters (Gencer, 2007: 112 and 114). High population density has also been linked to increased exposure to influenza, measles and tuberculosis (Alirol et al, 2011: 132).

Conflict can be both a cause and an effect of migration. In conflict-affected countries, displaced people often move to cities where they often live in poor informal settlements and are vulnerable to the risks associated with these areas (Feinstein International Famine Center, 2004: 25; Crisp et al, 2012: S23). Conversely, urban migration can lead to conflict within urban areas, particularly when ethnic groups with a history of tension are forced together in densely populated areas. (Feinstein International Famine Center, 2004: 46)

Inequalities and socio-economic status

There is limited and inconsistent evidence on the relationship between inequality and the effects of disasters in urban environments. Strömberg (2007) notes that several experts argue that economic inequality increases the vulnerability of urban areas to disasters, because inequality increases the proportion of the population classed as very poor, and this group is particularly vulnerable to disasters. However, in his quantitative study based on regression modelling, he finds no statistically significant relationship between inequality and disaster-related deaths. Another quantitative study contradicts this, finding that in countries with higher poverty gaps, more people died as a result of disasters (Gencer, 2007: 112).

UN-HABITAT (2007) note that disasters affect socio-economic groups within cities differently. Low-income groups face the highest risks, and poverty severely limits household coping strategies (ibid). Others concur that low socio-economic status increases individual vulnerability, and high levels of urban poverty in cities are therefore correlated with higher levels of disaster-related mortality (Thomalla, 2006, cited in Mitchell et al, 2013). Poorer neighbourhoods often lack access to public services and facilities that could enable them to cope with disasters (Gencer, 2013: 36), and suffer disproportionately from poor infrastructure: for example, almost all of the deaths resulting from an earthquake in Managua, Nicaragua, occurred in slums on the eastern slopes of the city rather than in wealthier parts of the city (Guha-Sapir 2014, expert comment). Poorer urban areas are more vulnerable to infectious disease and tend to be the first to be affected by outbreaks (Alirol et al, 2011: 133). Women, children, persons with disabilities and the elderly are most likely to be affected by disasters (Cohen, 2009: 35).

Types of hazards

Different types of hazards affect cities in different ways. Earthquakes, hurricanes, and catastrophic flooding tend to have widespread impacts (UN-HABITAT, 2007: 179). Droughts affect economic activity, including industrial production, but do not tend to cause property damage (UN-HABITAT, 2007: 179). Flows of hot ash resulting from volcanoes usually affect small areas (UN-HABITAT, 2007: 179). Human-made disasters tend to result in damage to urban infrastructure but not housing (UN-HABITAT, 2007: 179).

Earthquake vulnerability is highest in lower middle income countries with high levels of economic and urban growth which do not yet have planning and regulatory frameworks that incorporate disaster risk reduction in urban development (UNISDR, 2009: 44). Richer countries suffer higher absolute damages from earthquakes, while poorer countries suffer greater relative damage (UNISDR, 2009: 44).

National economic diversity

The effects of urban disasters can be more severe in smaller countries when the productivity losses of a city are a high proportion of the GDP of the country. Larger countries with multiple urban centres may be better able to recover than small counties with one major city, if the principal city is affected (Swiss Re, 2013: 14).

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