

INEQUALITY AND URBAN CLIMATE RESILIENCE IN ASIA

Resilience can be defined as people's power to cope with disasters, risks and opportunities. This briefing considers the implications of climate change for resilience in a context of increasing urbanisation, and draws on experience from our programmes in Asia, where urban poverty and inequality are growing concerns. It considers how addressing inequality is critical for risk and poverty reduction, and adaptation, and how building resilience is as much an issue of social justice as a technical challenge. It highlights the need for more sustainable and equitable urban development that integrates disaster risk reduction and builds resilience, focused on addressing the vulnerabilities of urban poor communities.

The urgent need for disaster risk reduction

Urban populations are expanding rapidly. By 2030, more than 59 per cent of the global population is predicted to be living in urban centres.¹ In Asia, economic development has tended to be uneven, drawing people from less developed rural areas to growing urban centres. Natural population growth within cities has also been significant. Globally, Asia is the region with the largest urban population,² and an estimated 54 per cent lives in low-lying coastal zones.³ While extreme weather events are nothing new, they are expected to increase in frequency and intensity as a result of climate change, alongside other impacts such as rising sea levels. With many of the most populous and rapidly growing cities sited in exposed coastal areas, floodplains and river deltas, the risks posed by climate change are considerable. Cities such as Dhaka, Kolkata and Manila are highly vulnerable to rising sea levels, storms, water surges and flooding.

Although no single weather event can be attributed to climate change, the impacts of Typhoon Haiyan on the Philippines in November 2013 illustrate the potential for extreme weather to set back development gains. Low and middle-income countries, which have the least historical responsibility for climate

emissions, are particularly vulnerable.

Urgent action must be taken to limit greenhouse gas emissions and keep global warming within manageable levels, alongside all necessary steps to manage the risks resulting from climate change already locked in due to historic emissions. Risk management will require better understanding and monitoring of climate trends and impacts, effective disaster preparedness and response, and, critically, reducing poverty that renders people less able to cope with shocks and adapt to change.

Cities represent the largest concentrations of people and assets. As such, they face heavy economic losses as a result of extreme hazards such as floods and storms. Less quantifiable are the human impacts – poor households being pushed into poverty or trapped there because they are disproportionately affected both by major disasters and less extensive impacts of bad weather and environmental change that mostly affect the marginal areas where they live.

The settlements that are home to many of Asia's poor are often sited on land that is prone to landslides and localised floods, for example, contributing to poor health and living conditions. A trend towards more frequent heavy rainfall in much of Asia has caused the greatest impacts in areas that are densely populated, poorer and more environmentally degraded.⁴

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Disaster management and disaster risk reduction (DRR) must address the disproportionate impacts of climate hazards on the poorest groups.

Community Based DRR is an effective approach that enables people to identify specific risks and vulnerabilities that affect them, and plan or advocate for appropriate responses.⁵ It can be adapted for urban contexts and – when supported by institutional mechanisms for links and coherence with local and national planning and policy – can also inform local and national preparedness and response mechanisms so that they become more effective and responsive to all (see example in Box 1). Also important is the dissemination of DRR and safety information to those people least able to access it, for example through schools and workplaces, and using a variety of media. Following a disaster, responses should integrate measures for long-term resilience, for example by investing in good quality, affordable housing, that is accessible to markets, and in productive assets to reduce risks and strengthen livelihoods.

Risk reduction is not solely a humanitarian issue, however. It should also be integrated in all urban planning processes and be central to mainstream policy and governance. Policies should be informed not only by climate science, but also by other factors that determine whether climate hazards cause a disaster. These include trends in population and settlement, which affect

levels of exposure to hazards; and patterns of poverty, which increases the likelihood people will come to harm, for example because they have limited livelihood options, lack of assets to fall back on in times of hardship or less access to basic services. **Disasters need to be seen not merely as a function of physical hazards, but more as a result of people’s vulnerability; and the focus on DRR should give way to a more integrated approach to social and human development to reduce disaster risks.**⁶

Vulnerability to risk is strongly linked to power inequalities, which prevent people in poverty from influencing decisions or accessing knowledge or entitlements that could help protect their assets, health or livelihood. Collaborative approaches involving vulnerable communities and other stakeholders, such as government, scientific institutions or the private sector, can help empower people at risk. Along with Community-Based DRR, examples include science-community partnerships that can ensure climate information is made available to citizens in a way that is useful for early warning, risk reduction and adaptation; and partnerships between government and civil society that allow citizens to access and monitor spending of funds for DRR and adaptation. **There is a need for more locally responsive and ‘bottom-up’ approaches, as well as innovative partnerships between residents’ groups, scientists and the private sector.**⁷

Box 1: the Manila Observatory: science-community partnership in the Philippines

Scientists of the Manila Observatory analysed changing land use, rainfall trends and river systems in Metro Manila to understand better how floods occur, developing a high-resolution picture that revealed an uneven distribution of impacts, populations and vulnerability. At the same time, they worked with people living in some of the poorest neighbourhoods supporting them to analyse the risks and how these affect them. This focused especially on the needs of women and the roles women can play in developing community based responses. People were enabled to find their own solutions, as well as to gather and analyse evidence with which to influence policy makers. This initiative was funded by Christian Aid as part of its community-based DRR work.

Adapted from TS Ketsana (Ondoy): Case study for DRR management in Metro Manila, Technical Report, Manila Observatory (2012).

Poverty reduction – why inequality matters

Many urban centres in Asia are home to a growing middle class, yet there is increasing inequality in much of the region, and a danger this could be disregarded if policy makers base decisions on aggregated indicators, such as life expectancy, which are generally higher in more urbanised nations. Addressing inequality, including gender and other social inequalities that underpin income inequality, is critical. It has been suggested that if inequality had remained stable in the Asian countries where it has increased, the same growth, which took place between 1990 and 2010, would have taken about 240 million more people out of poverty.⁸ Inequality is a barrier to poverty reduction, and poverty undermines adaptive capacity and resilience, increasing vulnerability to shocks and stresses.

Building urban resilience means better understanding and addressing the vulnerabilities of people living in poverty in towns and cities. These groups are likely to be more dependent on income-based (rather than agricultural) livelihoods, on public infrastructure for water and sanitation, and on market mechanisms for food security, than their rural counterparts.⁹ While often making important contributions to urban economies, they rarely enjoy a fair share of the benefits. Their right to space in cities, as well as their economic and social rights, must be fulfilled. The focus needs to be shifted towards the most marginalised groups, to stem inequality and ensure the opportunities that cities provide are accessible to all. In Asia, key concerns include the exclusion of certain groups from a range of entitlements, lack of land and housing security for the urban poor, and a crisis in employment.

Poor migrants to urban centres are among the most excluded groups. They often struggle to find decent housing or jobs while their entitlement to services or protection may be restricted or absent

due to their unregistered status or the informal nature of their settlements.

Many are further discriminated against due to their gender, caste, religion, citizenship or refugee status.

Migrants and other excluded groups lack a political voice with which to call governments to account for delivering their rights. **Building resilience must incorporate measures to strengthen the voice and entitlements of marginalised and excluded groups.**

Competition for land and economic opportunity often means poor residents are left with little choice but to live on marginal land prone to hazards, often in unplanned settlements. Their lack of secure tenure is a disincentive to invest in better housing or social capital, and they are less likely to benefit from services or measures, such as flood protection, provided for other neighbourhoods.

When these communities suffer losses as a result of disasters, their exposure to risk may be used to justify their relocation to even less suitable sites, far from sources of employment, rendering them more vulnerable in the long term. Relocation should be resorted to only after other measures to reduce risks and improve living conditions have failed, and should be accompanied by adequate compensation and service/infrastructure provision. In some countries, such as Cambodia, an escalation of compulsory land acquisitions and forced displacement to make way for infrastructure, city beautification and other development has taken place with little regard for the needs of the poor. This can undermine resilience and be as much of a threat as climate hazards themselves. **Poor people need secure and affordable homes, and a voice in planning and programmes for risk reduction, land use and safe settlement.**

An assessment of 12 Indian cities against a range of indicators (Box 2) found employment to be the greatest challenge.¹⁰ Good jobs build resilience by enabling people to invest in their

Box 2: Climate Disaster Resilience Index

Dimensions of urban resilience against which progress can be assessed include:

Physical – equitable access and sustainability in energy, water, sanitation, infrastructure, housing and land use.

Social – population trends, health, education and awareness, social capital, community based DRR.

Economic – income poverty, employment, household assets, availability of credit, finance and savings, public spending and subsidies.

Institutional – integration of DRR and climate adaptation, effective crisis management and response, institutional effectiveness collaboration across sectors, good governance.

Natural – intensity and severity of hazards, quality of ecosystem services, land use and availability, environmental policies and food security.

Adapted from India City Profile Consultation Report (2010).

own security and recover quickly after a shock, but growth patterns in much of Asia have not provided them on the scale required. Instead, high levels of vulnerable employment characterised by a lack of social security or health and safety protection undermine resilience to shocks. In India, 84 per cent of the workforce is in informal employment,¹¹ which is often exploitative, unsafe or insecure, and discrimination against socially excluded groups is widespread in urban labour markets, reinforcing inequality.¹² **Industrial and fiscal policies are needed to create sustainable employment, enhance the education and skills of the poorest groups and promote equality of opportunity.**

The Christian Aid resilient livelihoods framework is a useful tool for determining the kinds of policy responses needed for achieving resilience from a livelihoods perspective. It recommends a holistic approach to poverty reduction, encompassing security, health and other basic services, good governance and active citizenship,¹³ and it can be adapted for urban contexts including conflict settings.¹⁴

Adaptation and the need for sustainable cities

Climate change presents many challenges to aspects of urban development, including migration, the planning of settlements, energy use, waste

management, transport, public health and food provision. **Constraints on land, water resources and carbon space, and the likelihood of more frequent hazardous events are among the changing circumstances to which future urban development must adapt.**

Environmental management, economic development and risk reduction, already closely interrelated in urban settings, will become more so. **New plans for urban development will need to be 'future proofed' against climate trends and audited for their potential impacts on hazard risks (Box 3), taking on board lessons learned from contexts such as the Philippines' Metro Manila, where the risk of flooding has been vastly increased as a result of the constriction or diversion of approximately 40km of watercourses.¹⁵**

As urbanisation is also associated with increased energy demands, more low-carbon development trajectories will be needed. In India, per capita energy consumption of even the upper 20 per cent income band in New Delhi is still only about a quarter of that of the average consumer in the UK, but changing lifestyles are increasing demand across much of the population which, given its size, could lead to an unsustainable increase in carbon emissions in future.¹⁶ **Adaptation to future realities will require a delinking of economic development from increased use of fossil fuels and**

a greater emphasis on low-carbon sustainable energy sources.

Resource conservation will also need to pay more attention to the interdependence between urban centres and surrounding rural areas, particularly in relation to water.

In India and the Philippines, for example, there is potential conflict between groundwater extraction for urban centres and the needs of surrounding rural agriculture, highlighting the need for a greater focus on water harvesting, conservation and recycling.

It is critical that urban infrastructure and services work for the poor.

Rapidly changing peripheral areas and unplanned settlements need special attention, as failure of infrastructure and service delivery to keep pace with needs can increase environmental, health and safety risks. Dhaka, Bangladesh, for example, is struggling to cope with large numbers of migrants from rural areas settling informally (often in response to climate-related impacts in rural areas). More than 40 per cent of people now live in fringe areas, where housing is

poor and vulnerability to floods is high. Many face food insecurity and a lack of adequate water and sanitation, as well as intensified competition over natural resources, contributing to social conflict.¹⁷ In such contexts, it may be impossible to prevent unplanned urban growth, but more innovative policies, for example, to finance social housing or enable access to clean water or transport for low-income groups, could support resilience as cities grow organically.

The cities of the future will need to be designed with the principles of social equity and sustainability in mind, to minimise the risks posed by climate change while also reducing poverty and inequality, cutting greenhouse gas emissions and making the most of available resources. These multiple challenges must be addressed to avert further loss and damage in the long term.

It is important that urbanisation is not seen as a threat but rather as an opportunity to bring about economic, environmental and social benefits and co-benefits, which support adaptation to change and build resilience.

Box 3: how poor urban planning exacerbates climate-related risks

- sub-standard housing or infrastructure
- land use changes contributing to siltation of rivers and estuaries and constriction of waterways
- development of marginal land prone to hazards such as landslips
- buildings, paving and rubbish can interfere with natural drainage
- energy use contributing to emissions and a 'heat island' effect
- inadequate water and sanitation exacerbates health risks
- over extraction of groundwater contributing to subsidence.

Recommendations for policy makers

At a global level, appropriate policy responses include:

- **Sustainability:** New strategies for reducing urban energy consumption to ensure cities help governments meet carbon emissions reductions. Strategies for urban green growth and low carbon development must be a core part of the United Nations Framework Convention on Climate Change (UNFCCC) agreement and central to negotiations on the final convention.
- **Disaster resilience:** Investment in urban DRR at community level to involve vulnerable and marginalised communities in disaster prevention and response plans. Integration of risk management across urban development plans. UNFCCC adaptation plans must adequately address the specific needs

of cities and the Loss and Damage mechanism agreed at the Climate Change Conference (COP 19) in Warsaw in November 2013 must ensure that urban populations are valued as much as urban infrastructure at risk.

- **Equity:** Addressing inequality must be a priority for city governments in coordination with civil society groups and disaster management agencies. The specific vulnerabilities of urban poor communities, including the most marginalised and excluded groups, must be addressed, including through progressive and gender-sensitive tax and fiscal policies that provide for the creation of decent employment, safe and secure housing, and access to essential services.
- **Prioritisation:** The specific needs of cities and urban populations must be considered in all key global agreements:
 - in adaptation and loss and damage within UNFCCC agreements, which should provide appropriate financing and technology for practical interventions to build resilience and adaptive capacity, including through local-level responses
 - in the successor to the Hyogo Framework for Action, which should have community resilience at its heart and should drive more effective action at local level, including in urban settings, with communities supported to analyse the causes of their vulnerability and find solutions, in order to build a greater understanding of urban risk. It should also improve the accountability of local authorities to their communities through effective targets and monitoring, and should be more rights-based with a greater focus on vulnerability and equity
 - in the post-2015 global development framework, clear targets for building resilience and DRR, including in urban settings, should be set. Targets must be designed to reduce the impacts of both extensive and everyday disasters, promote equity by specifically reducing the impacts for the most vulnerable groups, stimulate greater action on reducing the underlying vulnerabilities and preventative actions, be able to be disaggregated to national, sub-national and community levels, and be based primarily on outcome.

Endnotes

1 *World Disasters Report: Focus on Urban Risk*, ICRC, 2010.

2 See demographica.com (9th Edition, 2013).

3 See unescap.org/stat/data/syb2011/I-People/Urbanization.asp

4 *Climate-Related Disasters in Asia and the Pacific*, ADB Economics Working Paper Series No. 358, July 2013.

5 See examples in Resilient Urban Communities: Stories from the Ketsana Rehabilitation Programme, christianaid.org.uk/Images/resilient-urban-communities-ketsana-

rehabilitation_tcm15-67195.pdf

6 This approach was promoted in the Philippines. See Republic Act 10121 Primer on the DRRM Act of 2010, DRRNetPhils.

7 Partnering for Resilience: christianaid.org.uk/images/DRR_case_studies_2011.pdf

8 Asian Development Outlook 2012 (ADB).

9 Deeper discussion of this point in *Disaster Risk Reduction in Urban Settlements*, Christian Aid, 2012.

10 *India City Profile: Climate and*

Disaster Resilience, Consultation Report, 2010.

11 *World of Work Report: Snapshot of India*, ILO (2013).

12 *Urban Labour Market Discrimination*, Indian Institute of Dalit Studies, 2009.

13 *Thriving Resilient Livelihoods: Christian Aid's Approach*, Christian Aid briefing, 2012, christianaid.org.uk/Images/Resilient-livelihoods-briefing-October-2012_tcm15-67261.pdf

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16 *Keeping India's Economic Engine Going: Climate Change and the Urbanisation Question*, Mukhopadhyay and Revi, Economic and Political Weekly, August 2000.

17 Dwijen Mallick, 'A Global, National and Local Response to Climate Change', in *The World We Want to See: perspectives on post-2015*, Christian Aid, 2013.