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ACCCRN Asian Cities Climate Change Resilience Network

THE ROCKEFELLER FOUNDATION

Asian Cities Climate Resilience

POLICY BRIEF 2015

Opportunities to address the emergent disaster risk landscape in urban India

Policy pointers

- **India's urban disaster risk governance framework needs to be strengthened to enhance the capacities of city governments, businesses and communities to reduce their vulnerabilities.**
- **The ongoing post-disaster recovery and reconstruction processes in urban centres offer opportunities to address some of the underlying risk drivers and improve and strengthen urban disaster risk management and climate adaptation planning and investment decisions.**
- **Recent initiatives, including the 100 Smart Cities and Make in India programme, provide a policy window to promote disaster and climate resilience thinking and facilitate multi-stakeholder collaboration and integrated planning.**
- **City governments and Urban Local Bodies (ULBs) could take the lead in this process by institutionalising enabling platforms to stimulate and sustain innovation and learning for city resilience-building.**

Indian cities are exposed to a new pattern of climate-related disaster risks. Floods in Srinagar in September 2014, triggered by extreme rainfall, were the deadliest to hit the valley in the last 60 years.[1] The port city of Visakhapatnam, ground zero of Cyclone Hudhud in October 2014, was the first city in the India Meteorological Department's history to be hit by a cyclone.[2] Such hydro-meteorological hazards are likely to become more frequent and severe because of climate change impacts. This emergent disaster risk landscape in India poses a threat to urban development investments and gains. However, ongoing post-disaster reconstruction, and a new political climate in India, provide a policy window to further strengthen an urban disaster risk governance framework to facilitate and improve urban resilience planning and investment.

Climate change and emerging disaster risk vulnerability in urban India

India is one of the countries most vulnerable to climate-induced natural disasters. It ranks second, after Bangladesh, in the Climate Change Vulnerability Index assessment[3] and is the thirteenth most vulnerable country in the recently released Climate Change and Environmental Risk Atlas.[4] This growing climate and disaster vulnerability puts communities, livelihood systems and infrastructure at risk of shocks such as the Kashmir floods or Cyclone Hudhud. While hydro-meteorological hazards, such as cyclones, storms and extreme rainfall events, are likely to become more frequent and intense because of a changing climate, there has also been a significant increase in the level of exposure of the urban systems,[5] resulting in new disaster risk.

Such disaster risk in urban settings is quite distinct, and this is influenced by the processes of urbanisation and other underlying socioeconomic and political factors. Disaster-induced loss and damage in such situations are significantly high. For example, total economic loss in the Jammu and Kashmir floods has been estimated at INR1 trillion (US$16 billion) and insurance payouts at more than INR9 billion (US$150 million).[6] These estimates pertain to loss and damage that have been quantified and monetised, and don't include non-economic loss and damage, such as erosion of culture, threat to identity, disruptions to social cohesion, decline in ecosystem services and trauma associated with displacement.

While urbanisation offers tremendous economic opportunities and drives a nation's growth, natural disasters and climate extremes impact these processes and threaten these development gains in multiple ways. Many Indian cities are prone to multiple hazards. Urban development investments and other new initiatives in India need to be better informed about these emerging climate and disaster risks. Such risks are complex and dynamic, and post-disaster reconstruction and recovery processes provide opportunities to identify the underlying risk drivers and ways through which future risks can be mitigated or reduced.

Urban post-disaster reconstruction approaches and the new political climate

As part of the ongoing post-disaster reconstruction in the disaster-affected regions of Srinagar and Visakhapatnam, there have also been efforts by municipal and city development authorities to re-examine the City Development Plans (CDPs) and City Disaster Management Plans (CDMPs), wherever available, and highlight critical issues of inadequate climate and disaster risk-sensitive urban planning. These processes provide an opportunity for policy makers and city managers to better understand the complexities associated with such climate-induced disasters in urban centres.

This growing complexity is further reflected in India's increasing disaster-induced losses and relief expenses; from US$1.1 billion in 2009 to more than US$1.4 billion in 2013.[7] In addition, an increasing trend in natural disaster-related insured losses highlights risk accumulation, and more so in India's urban systems. For example, Cyclone Hudhud-related insured losses have been estimated to be between US$100 million (INR6 billion) and US$400 million (INR24 billion).[8]

Such disaster-induced loss and damage in India needs to be understood in the present context, where the new government aims to support and strengthen planned urban development as a key driver of national growth. A major policy initiative in this direction is the building of 100 Smart Cities across India. These cities will be built on the four pillars of social, physical, institutional and economic infrastructure. Sustainability and quality of life are central to this design. Smart governance, by breaking down departmental silos through greater coordination and effective use of ICT tools, will also strengthen inter-departmental coordination and collaboration for disaster risk reduction and climate adaptation planning.

Second, the new political climate in India aims to further strengthen decentralisation in decision-making, support 'cooperative federalism'[9] and facilitate improved governance at the sub-national and city levels. The combination of this emerging policy space and the learnings from the ongoing post-disaster reconstruction provides an enabling platform to rethink and re-organise an improved urban risk governance framework. These efforts will help strengthen the design and implementation of risk-informed urban development pathways and investment decisions.

An improved urban risk governance framework

Urban disaster management practices have evolved in India, and the 2005 Mumbai floods were a turning point that resulted in new approaches to urban flood management. But, as the recent disasters highlight, there remains a *need* at the city level to further strengthen and develop an urban risk governance framework to better prepare for and respond to such hydro-meteorological hazards. This is also critical to enhancing the capacities of stakeholders, mostly those of municipal authorities and urban planners, in order to better design and invest in urban development pathways that are effective and efficient in reducing climate-induced risks. Simultaneously, the new political climate in India, with a strategic focus on planned urban development, offers *opportunities* to work towards this.

The government recognises the climate vulnerabilities of Indian cities[10] and is strongly pushing for inclusion of more climate change adaptation efforts in the decisive 2015 Paris Climate Summit (COP 21).[11] Such a climate-responsive political climate provides additional policy windows. It is in this context that the proposed urban risk governance framework identifies five distinct but interrelated elements of institutions, innovation, investment, information and infrastructure (Figure 1) and presents some of the opportunities, including sources of finance, at the city level (Table 1).

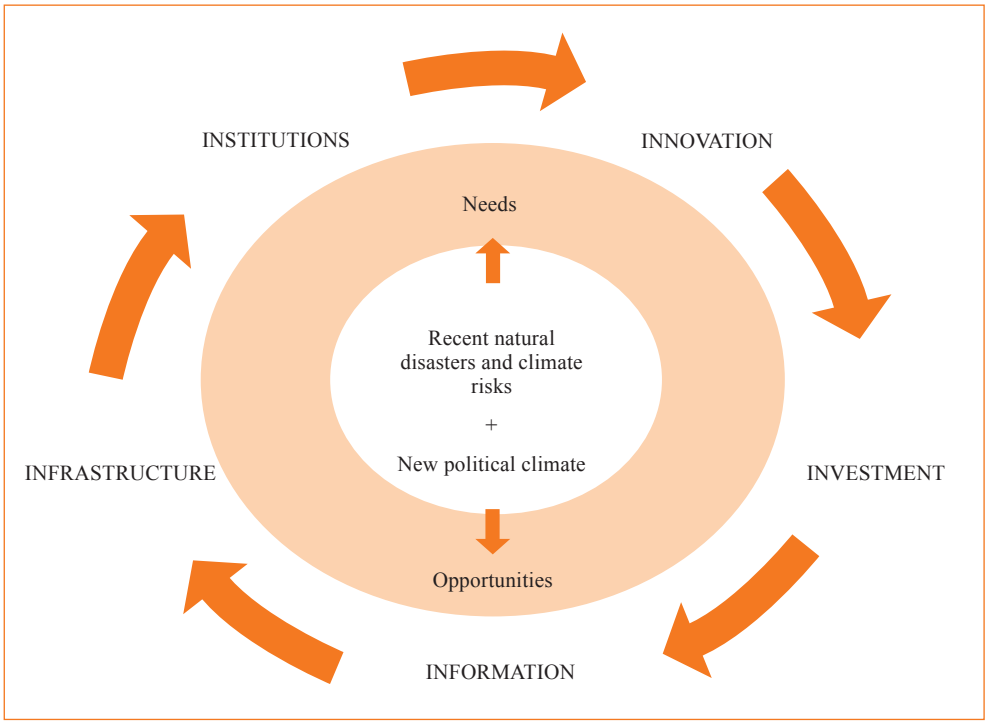
As highlighted, post-disaster reconstruction and the new political climate offer a series of opportunities for urban resilience planning in India. Building on the overarching policy frameworks of the Government of India, such as the National Disaster Management Policy (2009), the

Table 1: Key elements of urban risk governance and the opportunities at city level in India

Element of urban risk governance	Opportunities at the city level	Key stakeholders	Potential sources of finance
Institutions	■ Capacity enhancement of the Urban Local Bodies (ULBs), municipal authorities, urban planning agencies and the District Disaster Management Authorities (DDMAs). ■ Greater coordination among ULBs and State Disaster Management Authorities (SDMAs) to identify opportunities for mainstreaming climate change adaptation and disaster risk reduction into City Development Plans (CDPs). ■ Preparation and review of City Disaster Management Plans (CDMPs) as an iterative process of learning.	ULBs, DDMAs, municipal authorities, local NGOs and citizen groups.	Mostly from existing and planned expenditure under schemes such as the Jawaharlal Nehru Urban Renewal Mission (JNNURM), Rajiv Awas Yojana (RAY), etc.
Innovation	■ Cities as innovation hubs. ■ Technology start-ups and firms could partner with city development and planning authorities to identify smart and affordable technological solutions. ■ Innovation to address the needs of the urban poor, such as low-cost social protection measures.	Provincial governments, city authorities, technology providers and financial institutions, both banking and non-banking.	Start-ups and private sector investment such as Microsoft's City Next Platform and bilateral initiatives such as the recently launched India-UK Collaborative Industrial R&D programme.
Investment	■ Existing investments under various city development plans of the federal and provincial governments. ■ New policies under the Make in India programme, e.g. 100% Foreign Direct Investment (FDI) through automatic route for development of townships and cities.	Provincial governments, city authorities, investors (local and foreign), banks, insurance companies and other industry bodies such as the Associated Chambers of Commerce and Industry of India (ASSOCHAM) and the Confederation of Indian Industries (CII).	Diversity of source depending on the initiative and mode of investment such as Public Private Partnership (PPP)/ Build Operate Own Transfer (BOOT). Bilateral and multilateral donors and development banks.
Information	■ Need for climate-related loss and damage data including sectoral needs. ■ Preparation of City Disaster Risk Plan, Climate Action Plan and related initiatives. ■ City-level Shared Learning Dialogues (SLDs) could contribute to the National Platform for Disaster Risk Reduction (NPDRR).	Weather-forecasting agencies, such as IMD's regional centres, the Central Water Commission (CWC), city-level disaster management and climate change centres.	Specific research programmes such as the citywide HVRA and Climate Modelling for City could be supported through Government of India's own Research and Development (R&D) funding or through externally funded programmes.
Infrastructure	■ Infrastructure development priorities of respective line departments. ■ Build-back-better in cities and urban centres that were affected in recent natural disasters such as the J&K floods (September 2014) and Cyclone Hudhud (October 2014).	Service providers, both public and private, various regulatory authorities ensuring quality of and accessibility to these services.	Greater contribution from the private sector and other initiatives such as the Small-Scale Sustainable Infrastructure Development Fund (S3IDF) and the Infrastructure Debt Fund (IDF) of the Reserve Bank of India (RBI).

National Mission on Sustainable Habitat (2008) and recent policy decisions related to the 100 Smart Cities initiative, these opportunities are opening up new spaces of engagement and collaboration at the city level. City governments can capitalise on these opportunities through proactive engagement and partnerships with a variety of stakeholders, including the private sector and research institutes, to facilitate needs-based resource mobilisation and build an evidence base for urban resilience planning and development.

Figure 1: Urban risk governance at the interface of natural disasters and a new political climate in India



Notes

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Aim of Series:

The findings presented here are drawn from research published in the Asian Cities Climate Resilience working paper series. The series has arisen out of the Asian Cities Climate Change Resilience Network (ACCCRN), an initiative funded by the Rockefeller Foundation – more information can be found at www.acccrn.org

Published by IIED, January 2015
IIED order no: 10726IIED
http://pubs.iied.org/10726IIED.html
ISBN 978-1-78431-138-4
80-86 Gray's Inn Road, London WC1X 8NH, UK
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