



WSDS 2016: Mumbai Regional Dialogue

Localising the Post 2015 Development Agenda

Building Sustainable, Climate Resilient, Smart Cities

Mumbai | 12 August 2016

Concept Note

Introduction

Since 2001, TERI annually organised the Delhi Sustainable Development Summit (DSDS) to facilitate the exchange of knowledge on all aspects of sustainable development. Over the past 15 years, it emerged as one of the foremost fora on issues of global sustainability and has brought together Heads of States and Governments, thought leaders, policy makers and the crème de la crème of the industry and academia to deliberate on myriad issues. The **World Sustainable Development Summit 2016** carries forward the legacy of DSDS. WSDS 2016, themed '***Beyond 2015: People, Planet & Progress***', will be among the first international platforms to discuss the new development agenda post the adoption of the Sustainable Development Goals (SDG) and the signing of the Paris Agreement at the 21st Conference of Parties (COP21). The attempt will be to initiate discussions on methodologies to be adopted to chalk a path to realize the Goals beyond 2015.

As a run-up to WSDS 2016, TERI is hosting a series of regional dialogues. In the wake of SDGs and COP21, and in light of the recent implementation of the Smart Cities Mission and AMRUT, the Regional Dialogues in Mumbai and Bengaluru are focused on sustainable urbanisation. These discussions are designed to offer a strategic and valuable space for sustainable development stakeholders to formulate innovative plans for urbanisation, smart growth, climate change mitigation and adaptation, and urban risk management.

Building Sustainable, Climate Resilient and Smart Cities – *Implications for Coastal Cities*

At the United Nations Conference on Sustainable Development in 2012, 17 SDGs were developed which provide a solid framework for designing the Mumbai Regional Dialogue around the theme of resilient urbanisation, especially the following Goals:

- Goal 9: Build resilient infrastructure, promote sustainable industrialisation and foster innovation
- Goal 11: Make cities inclusive, safe, resilient and sustainable
- Goal 13: Take urgent action to combat climate change and its impacts
- Goal 17: Revitalize the global partnership for sustainable development'

Coastal cities in India have seen continued growth over the last few decades. Coastal areas hold more than 50% of the cities and towns in India.ⁱⁱ According to the Census, over 560 million people - about 44% of India's total population - live in coastal States, Union and Island Territories.ⁱⁱⁱ This number is expected to continue to rise, following the trend of urbanisation that saw growth in cities like Kolkata, Chennai, Kochi and Mumbai. As coastal cities continue to grow and expand their services, it is essential that this development is done with resilience and sustainability in mind.

To realise climate resilient urbanisation in coastal areas, communication and collaboration between the public, private and non-profit sectors will be key. Interdisciplinary and international relationships, that place resilience and holistic sustainability at the center, can help these cities embrace smart infrastructure, encourage long-term investment in sustainable development, and address climate change.

There are also many opportunities for collaboration and innovation between the public and private sectors within the Smart Cities and AMRUT framework, especially as coastal cities seek support in their continued efforts to improve urban infrastructure.

In this context, the Regional Dialogue at Mumbai will focus on will focus on 1) *Climate Resilient Infrastructure Services - The Way Ahead* and 2) *Fostering Partnerships and Innovation for Smart and Resilient Urban Solutions* .

Session 1: Climate Resilient Infrastructure Services - The Way Ahead

Climate change poses a significant risk to secure, sustainable and positive urbanisation in India's coastal areas. In the coming years, coastal and low-lying cities are projected to have increased flooding, storm surge and saltwater intrusion. In recent history, coastal cities has seen high levels of flooding, such as the unprecedented Maharashtra flood in 2005 that resulted in over 1,000 fatalities and caused USD 2 billion worth of direct economic damages. A recent study by Stéphane Hallegatte et. al suggests that, with an 'upper bound' climate scenario, floods like the 2005 deluge could become twice as likely by 2080.^{iv} Climatic risks such as these are expected to have serious consequences for the economic vitality of low-lying urban areas if mitigation steps are not taken today.

Flooding and saltwater intrusion weakens the structural integrity of buildings, results in groundwater salinization and damages necessary infrastructure. Harm to these has a severe negative impact on residents - especially disadvantaged peoples with little or limited access to services, financial support and humanitarian aid. Furthermore, along with excessive flooding, will come an increase in health risks and mortality. By 2050, coastal areas in India will see a

significant increase in lung diseases from air-borne fungi and vector-borne diseases such as malaria, diarrhoea and leptospirosis.^v

These short and long term risks to the economy, urban services and human well-being can be mitigated by developing resilient infrastructure in coastal urban areas. Resilient infrastructural development will be required at varying levels in all sectors, and will need to be a continual and an incremental effort.

The most direct ways to address increased flooding is through drainage and wastewater management. The Hallegatte et. al study suggests that through improved water runoff systems, expected economic losses due to flooding could be reduced by as much as 70%. Adaptation measures such as improved wastewater management would reduce damage, while economic interventions such as high insurance penetration would help cover reconstruction and spur economic recovery after a natural disaster event.^{vi}

Another key sector requiring resilient infrastructure development would be urban transport. In existing public transit infrastructure, resilient retrofits will be needed to improve efficient transport in the city as well as aid post disaster economic and social recovery. At the same time, as coastal cities continue to grow, jobs and housing will continue to move further from central nodes, requiring new public transit infrastructure which will also need be developed based on a low carbon, resilient development pathway. The session would aim to answer some of the following questions:

1. What are the key challenges and barriers to climate resilient infrastructure and growth at present?
2. What are the major policy gaps? What kind of standards need to be designed and created? What are the specific requirements for designing programmes to support the creation of a climate resilient Mumbai?
3. What are the potential enablers for mainstreaming climate resilience planning in the State and City level development agenda? Do the urban local bodies have the required capacities?
4. In what ways can the drainage and wastewater management and urban transport sectors in Mumbai implement resilient, clean and green technologies? Are such technologies feasible?
5. What could be the potentially successful implementation and financing mechanisms for developing climate resilient infrastructure services, for instance, incentives for private investment, ease of doing business, fostering an open policy environment, providing technical know-how, and building capacity?

Session 2: Fostering Partnerships and Innovation for Smart and Resilient Urban Solutions

An increasingly interlinked world provides unprecedented opportunities to accelerate innovation reduce risk and scale up technology applications in the urban space. As climate change impacts increase in severity, there is an urgent need to promote climate action collaboration between the government, the private sector and NGOs.

While many of the partnerships invariably focus on large scale projects, it is important for stakeholders to keep in the mind the huge importance of providing services and support to the most vulnerable populations. This can be addressed by ensuring there are provisional requirements to improve services, access and engagement of marginalized communities in the frame of a larger, high capital project.

Beyond the challenge of inclusiveness, there are hurdles being faced by different stakeholder groups in forming collaborations that slow down progress and block technological adaptations. To address these issues and others, the following questions will guide this conversation during the session:

1. What is the role that stakeholders envision for themselves within a resilient city development partnership?
2. What could be the potential Public Private Partnerships in the context of building resilient infrastructure, taking note from successful models of PPPs in India? What could be the potential mechanisms to enable international partnerships in these areas? What would be the limits of this partnership framework?
3. How can we ensure that the marginalized voices are heard and made central in the decision and partnership process?
4. How to ensure data sharing, monitoring and accountability between stakeholders as well as with the public and government?
5. How to address policy and institutional coherence, especially when in collaboration with projects through the Smart City Mission or AMRUT? How can the monitoring systems be strengthened to ensure projects are completed in alignment with governmental frameworks?

ⁱ <http://www.un.org/sustainabledevelopment/>

ⁱⁱ <http://www.ipublishing.co.in/ijesarticles/fourteen/articles/volfive/EIJES51047.pdf>

ⁱⁱⁱ <http://iomennis.nic.in/index2.aspx?slid=758&sublinkid=119&langid=1&mid=1>

^{iv} <http://dx.doi.org/10.1787/5km4hv6wb434-en>

^v <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2923420/>

^{vi} <http://dx.doi.org/10.1787/5km4hv6wb434-en>