Future Cities 2040 Policy Lab

Navigating urban transitions for inclusive, sustainable and resilient futures

2 & 3 August 2019 | Goa

This publication was first published by the authors under auspices of erstwhile Tandem Research.

TANDEM
RESEARCH

The Asia Foundation

Tandem Research is an interdisciplinary research collective generating policy insights at the interface of technology, society, and sustainability. We believe in finding iterative solutions to real world problems through evidence based enquiry and public engagement.

The Asia Foundation is a nonprofit international development organisation committed to improving lives across a dynamic and developing Asia.

Future Cities 2040 Policy Lab:

Navigating urban transitions for inclusive, sustainable and resilient futures

Tandem Research 2019

INTRODUCTION

In the summer of 2019 we have witnessed water crises in Chennai, extreme heatwaves in Delhi and floods in Mumbai. While we can debate the extent to which these phenomena can be directly attributed to global climate change, the need for planning for resilience in urban areas is even more urgent. Indian megacities are locked into unsustainable trajectories but in growing mid-sized cities – Panaji, Surat, Indore, Guwahati, Shillong, Leh, there might still be an opportunity to shape future trajectories towards more sustainable and resilient futures.

Research conducted by Tandem Research and The Asia Foundation in Agra and Panaji reflects the urgent need for shaping and navigating long-term transitions in mid-sized cities in order to avoid unsustainable futures that are already a reality for many South Asian megacities[1]. Systematic foresight and anticipatory knowledge on how complex and uncertain drivers of change — i.e. political economy, climate change, demographic trends and technological transformation — are likely to interact is urgently needed to manage transitions towards inclusive, sustainable and resilient cities. Further, a co-created and shared

[1] Tandem Research. (2019). Human Face of Climate Change. From Risk to Resilience in Indian Cities. A Tale of Three Cities: Agra, Delhi, and Panaji. Social Vulnerability in Informal Settlements. An Agenda for Policy and Action.

vision of our common urban futures is required, around which citizens and local municipal bodies can mobilise action.

The main objective of this Policy Lab on *Future Cities 2040: Navigating urban transitions for inclusive, sustainable and resilient futures*, is to identify partnerships and to outline a research and advocacy agenda for shaping public and policy action on future cities. The policy lab seeks to collectively evaluate the political, social, and value-based contestations underlying the framing of problems, goals, solutions, and to identify pathways for shared sense-making and collective action. Tandem Research's *Future Cities 2040* initiative will develop a framework and, subsequently, a tool to explore and articulate future scenarios for growing mid-sized cities in South Asia and a blueprint for policy and public action.

'Resilient Cities' has emerged as one of the most ubiquitous policy narratives in response to climate change in dynamic and emerging cities of the developing world.[2] Visions of 'resilient cities' bring with them wider visions of society and need to be

[2] Adger, W.N., Brown, K., Nelson, D.R., Berkes, F., Eakin, H., Folke, C., Galvin, K., Gunderson, L., Goulden, M., O'Brien, K. and Ruitenbeek, J. (2011). Resilience implications of policy responses to climate change. Wiley Interdisciplinary Reviews: Climate Change, 2(5), pp.757-766. https://onlinelibrary.wiley. com/doi/pdf/10.1002/wcc.133

understood as ‘social imaginaries’.[3] Undoubtedly - adaptive action to climate impacts is both important and urgent in India - but it is equally critical to unpack the diversity of ideas and practices that various actors associate with resilience. “Resilience is plurally perceived and pursued; complex power dynamics are inherent in the social and institutional processes by which particular sets of resilience strategies come to dominate.” [4]

[3] Jasanoff, S. & Kim, S. H., eds. (2015). Dreamscapes of Modernity. Chicago: Chicago, University Press.

[4] Mathur, V. (2011). Uncertain Knowledge: Cultures, Institutions and Resilience, Adapting to Climate in Tonle Sap Lake of Cambodia, Doctorate of Philosophy, University of Oxford, Oxford.

THEMATIC SESSIONS

i. Drivers of Change

Mid-sized cities in India are expected to grow exponentially but it is uncertain if increased urbanisation will provide better lives and economic opportunities. Estimates suggest that by 2030, India will be 50% urban[5] – by the same year, cities are projected to generate 70% of new jobs, and create more than 70% of the Indian GDP. The narrative around cities as centres of economic activity, smart innovation and expanding infrastructure, often masks the acute challenges of unplanned growth and development, over-utilisation of natural resources, increased climate vulnerability, unhealthy living conditions, and social marginalisation. Multiple and complex drivers of change are likely to interact in unpredictable ways.

ii. Climate impacts, vulnerabilities and coping across regions

Despite temporal and spatial uncertainties in the scale and frequency of the impacts of global climate change, science is clear that climatic changes are likely to be major disruptors in

---

[5] Hardeep Singh Puri. (2017, October 06). Around 50% of India would be urban by 2030. https://www.moneycontrol.com/news/business/real-estate/around-50-of-india-would-be-urban-by-2030-hardeep-singh-puri-2407103.html.

India in the years to come. Variability is precipitation patterns, rising mean global temperatures, increased frequency and intensity of extreme weather events, rising sea levels and melting glaciers can all affect Indian cities adversely. Vulnerabilities – of communities, built-environment and ecosystems they depend on, need to be better understood.

Coastal Regions

Many Indian coastal cities are at risk of climatic impacts, including sea level rise, flooding due to changes in rainfall patterns and coastal erosion of beaches. Further, there is the concern of rapid, tourism-driven coastal development, which is inextricably linked to the resources and livelihoods of coastal communities. In addition to these risks, cities on the East coast of India are prone to severe cyclones which may be aggravated due to rising global temperatures.

Dusty Plains

In the Indo-Gangetic plains cities face their own set of climatic and non-climatic pressures. Most urban populations are along the banks of the Ganga river and heavily depend on it for water resources and livelihoods. This dependency is likely to grow as global warming and decreased precipitation reduces water resources. In addition, water-intensive industries are proliferating on the banks of rivers in the Indo-Gangetic plains, discharging untreated effluents and thus heavily polluting water sources

downstream. Adverse changes in conditions for agriculture are likely to exacerbate this, as rural agriculture-based populations move to urban centres in search of economic opportunities.

Mountain Towns

Up north in the Himalayan region, urban centres largely depend on glacier-fed springs and rivers to meet the demands of increasing populations. In addition to non-climatic stressors such as rapid urbanisation, climate change poses grave threats in the form of changing weather patterns and extreme climatic events which are increasing the likelihood of cloud bursts, glacial lake outbursts and landslides, as seen in mountain towns in recent years.

iii. Histories of the Future

Developing systematic foresight and anticipatory knowledge will be critical for navigating the complex, diverse, and uncertain futures in Indian cities. For example, scenarios are often used to understand far-future challenges which are both complex and uncertain, and help explore different alternative future pathways. In the context of sustainability and resilience, future scenarios may be thought of as coherent and plausible stories, told in words and numbers, about the possible co-evolutionary pathways of combined human and environmental systems.

iv. Pathways of Change

Policy pathways are routes of influence with the potential to directly or indirectly change policies and affect the behaviour of policy makers and policy-making bodies. Pathways are about deliberative practises: bargaining and contestation among policy actors. Pathways suggest a process for policy engagement that not only focuses on formal policy outcomes - concrete impact on legislation and regulation - but also considers indirect impacts on stakeholders such as changes in behaviour, increased learning and awareness among actors and, improved transparency and democratic accountability.

AGENDA

2 August 2019

9:30 - 10:00	**Registration & Coffee**
10:00 - 10:30	**Introductions**
10:30 - 12:00	**Session I: Drivers of Change** What are the major drivers of change that are going to shape futures in growing mid-sized cities in the next 10 to 20 years? What are their likely trajectories - do we understand their interactions?
12:00 - 12:30	**Coffee Break**
12:30 - 13:30	**Session II (a): Climate impacts, vulnerabilities and coping across regions** What are the various scenarios of climatic risks faced by mid-sized cities in India? What impacts are most critical and who is most vulnerable?
13:30 - 14:30	**Lunch**

14:30 - 15:00 **Session II (b): Coastal Regions**

What are the climatic and non-climatic pressures, vulnerabilities and policy choices in mid-sized coastal cities?

Which coastal cities require most urgent attention?

15:00 - 15:30 **Session II (c): Dusty Plains**

What are the climatic and non-climatic pressures, vulnerabilities and policy choices in mid-sized cities in the plains?

Which cities in the plains require most urgent attention?

15:30 - 16:00 **Session II (d): Mountain Towns**

What are the climatic and non-climatic pressures, vulnerabilities and policy choices in mid-sized urban centres in the mountains?

Which mountain cities require most urgent attention?

16:00 - 16:30 **Coffee Break**

16:30 - 18:00 **Synthesis & Exercise**

Breakout session to discuss and synthesise learnings from previous sessions. A “futuring” exercise to imagine actors, stakeholders, decision-makers and change-makers in our future. Futuring allows us to imagine the range of plausible scenarios that may be a reality for Indian mid-sized cities.

18:30 - 20:30 **Drinks & Dinner**

3 August 2019

9:30 - 10:00 **Focus: Smart City Panaji**

What is the vision for the future of Smart Cities in India?

What challenges – current and anticipated – will Smart Cities face in addressing inclusivity, sustainability and resilience?

10:00 - 11:30 **Session III: Histories of the Future**

How do we generate systematic foresight for complex drivers of change in mid-sized cities?

What kind of timelines and scenario tools are most relevant for developing anticipatory knowledge?

11.30 - 12:00 **Coffee Break**

12:00 - 13:30 **Session IV: Pathways of Change**

What are the pathways and entry points for navigating mid-sized cities towards inclusive, sustainable and resilient futures?

What are the processes through which policy alternatives can be deliberated and decided?

13:30 - 14:30 **Lunch**

PARTICIPANTS

Aaron Savio Lobo is a conservation practitioner and has a long-standing interest in finding appropriate ways to reconcile conservation and economic development. He has a PhD from the University of Cambridge and has extensive experience in designing, supporting and managing projects in South Asia and West Africa. These include setting up fisheries monitoring programmes, Marine Protected Area management and addressing issues pertaining to seafood sustainability.

Dr. Anjal Prakash is an Associate Professor and Associate Dean - Business Development at TERI-SAS Hyderabad Campus. He has two decades of experience in working on water and climate issues focusing on policy research, advocacy, capacity building, knowledge management, networking and implementation of large scale and multi-country climate change and development projects in South Asia. Anjal has worked as the Programme Coordinator of Himalayan Adaptation, Water and Resilience (HI-AWARE) Research on Glacier and Snowpack Dependent River Basins at International Center for Integrated Mountain Development (ICIMOD) based in Kathmandu, Nepal in the past, and has been a coordinating lead author for the IPCC Special Report on the Ocean and Cryosphere in a Changing Climate (SROCC), as well as the lead author for the chapter on cities, settlements and key infrastructure in the IPCC's 6th Assessment

Report. Anjal holds an advance degree from Tata Institute and Social Sciences (TISS), Mumbai and a PhD in Social/ Environmental Sciences from Wageningen University, Netherlands.

Aparna Roy is an Associate Fellow and Co-Lead, Climate Change and Energy, at the Observer Research Foundation. Aparna's primary research focus is on the politics of climate change, resilience building and environmental governance. Aparna aims to generate critical insights on the contested science and risk of climate change impacts on sustainable development goals (SDGs) in the Global South, probe the effectiveness of building resilience of the development sectors and explore the future of resilience in an increasingly climate-constrained world.

Deepta Sateesh is the Director and Co-Founder of the Design+Environment+Law Laboratory, an experimental space at the Srishti Institute of Art, Design and Technology. Through the lab she runs collaborative studio-based projects with design students, working with NGOs, government organisations, and communities in ecologically sensitive regions. Her core practice focuses on resilience and climate change, as well as research and innovation for conservation futures. Her work creates new pathways for design, environment, education and policy/planning. She conceptualises and facilitates complex projects concerned with the environment and communities, to catalyse socio-

ecological change in regional ecosystems and landscapes in conflict. For her, design is a creative process of inventing, adapting and imagining ways of seeing, engaging and acting in open dynamic systems.

Divya Sharma heads Oxford Policy Management's Urban Planning and Policy Portfolio. She is an urban policy and climate resilience expert with extensive experience on capacity building, policy and city strategy formulation on smart cities, climate and disaster resilience and pro-poor development. Formerly, she was a member of the Consultation Committee of the Asian Cities Climate Change Resilience Network (ACCCRN) - a 9 year long multi-country program initiated by the Rockefeller Foundation that covered more than 30 cities across Asia. She is also a core participant for dialogues on setting up the Urban Innovation Hub for Smart Cities in India and the Climate Smart Cities initiative of the Ministry of Housing and Urban Affairs, Government of India.

Malavika Thirukode heads the Asia Foundation India's regional environment and energy portfolios. Malavika has over six years of experience of working with grassroots, national, and regional civil society organisations (CSO) in India. She has designed, led, and coordinated income generation projects for women in rural India; developed teacher education modules for educators in India's government schools; and coordinated UNFPA's efforts to map Indian CSO/NGO projects and capabilities in delivering

adolescent sexual and reproductive health services in South Asia. Prior to her current role at the Asia Foundation, Malavika provided support to Indian social enterprises to develop strategies for diversification of their programming in rural entrepreneurship, women and youth empowerment, and adolescent public health services. Malavika holds a Master of Science degree in the Control of Infectious Diseases from the London School of Hygiene and Tropical Medicine, United Kingdom.

Manu V. Mathai is an Assistant Professor at the School of Development at Azim Premji University. Manu's teaching and research intersects themes of (energy) policy and governance, (energy) technology choice and sustainability. His work explores alternatives to the development status quo for realising greater fairness in human well-being outcomes within the constraints of ecological finitude. In terms of methodology, his interdisciplinary training in the social and natural sciences have rendered him appreciative of an inclusive approach. Manu has previously taught at the Institute of Advanced Studies at the United Nations University and the Department of Science, Technology and Society/Public Policy at the Rochester Institute of Technology. He was a Research Associate at the Centre for Energy and Environmental Policy at the University of Delaware.

Nandita Baruah is the Asia Foundation's country representative in India, and formerly served as deputy country representative in Nepal. She has over 25 years of professional experience working on gender, human rights, labor migration and human trafficking issues in South and Southeast Asia. She has headed South Asia regional programs on gender-based violence, human trafficking and migration and rural development. She worked as the Gender Advisor to the CIDA in India and also as the South Asia Regional Gender Fund Manager. She was the Regional Coordinator for the UN Women anti-trafficking program and the UNODC UN-GIFT program. She has served with USAID India as the regional anti-trafficking and gender specialist. Nandita has a master's degree in Historical Studies and a master's degree in Political Economy from Jawaharlal Nehru University (JNU), India.

Rahul Srivastava is a Co-Founder of urbz and The Institute of Urbanology. He studied social and urban anthropology in Mumbai, Delhi and Cambridge (UK). His previous publications include an ethnography of urbanised nomads around Mumbai, a novel published by Puffin, (Penguin, India) and 'The Slum Outside', a commentary on Dharavi, co-written with Matias Echanove and published by Strelka Press. He continues to write extensively on urban issues with Matias, with their next major publication signed up with Verso, London. He brings his background in anthropology and visual ethnography to urbanology, the practice that energises much of urbz's work in

Mumbai and elsewhere.

Raina Singh is a Senior Fellow at the Urban Resilience Unit, a joint initiative of 100 Resilient Cities (100RC) – pioneered by the Rockefeller Foundation - and the National Institute of Urban Affairs, for providing technical support to cities and the Ministry of Housing and Urban Affairs, Government of India. An urban environment planner by training and an urbanist at heart, she likes to view cities through the lens of sustainability and resilience. Raina's recent engagements include consulting, policy research and advisory, and capacity building on environmentally sustainable, smart and resilient urban development.

Rohan Patankar is a design researcher and strategist at Quicksand, a multidisciplinary design thinking and innovation consultancy. With a background in architecture and trans-disciplinary urban studies, he is interested in realising the potential of design-oriented problem-solving to improve experiences of our everyday lives. Through listening, drawing, and writing, he is often thinking about telling better stories and asking better questions about the worlds we live in. In 2011, he co-founded Delhi Dallying - a venture for curating walking tours and narrative experiences to unpack the many layers of the city. Since 2018, he has also been working towards setting up Futures of Urban Life - a platform to connect change-oriented practices and projects from around the globe. He holds a bachelor's degree

in architecture from SPA, Delhi and a master's degree in City Design and Social Science from LSE, London.

Dr. Shiraz Wajih is an Associate Professor at Gorakhpur University College and has been associated with the Gorakhpur Environmental Action Group (GEAG) for the last 40 years. Over the years, Shiraz has carried out research, policy advocacy and training for resilient and low input agriculture, water management issues in northern India, and climate change resilience. Shiraz has been associated with the Asian Cities Climate Change Resilience Network (ACCCRN) since 2010, working for urban climate change resilience and integration of climate change in district disaster management planning.

Suruchi Bhadwal is a Senior Fellow, Earth Science and Climate Change at TERI. Some of the key projects she has worked on include a study on vulnerability to climate change in the Indian agricultural sector in the context of economic globalisation (supported by CIDA and the Government of Norway), contributions to India's first and second national communications submitted to the UNFCCC, and World Bank- supported study on vulnerability to climate variability and change through an assessment of issues and options for adaptation. Suruchi is also listed as a UNDP regional roster of expert on vulnerability and adaptation. At COP events she has been actively involved, as an observer, organiser and contributor.

Swati Janu is an architect and community artist whose work engages with issues of social justice and right to shelter in Indian cities. Her social practice combines architectural activism, community engagement and practice based research on the urban themes of migration and urban informality. A graduate from the School of Planning and Architecture, New Delhi, Swati also holds an MSc in Sustainable Urban Development from University of Oxford, UK. She is the founder of Social Design Collaborative as well as visiting faculty at the School of Planning and Architecture, Delhi, and Ambedkar University, Delhi.

Swayan Chaudhuri is the Managing Director & CEO, Imagine Panaji Smart City Mission; Director, AMRUT (Atal Mission for Rejuvenation & Urban Transformation); and Executive Director, Goa State Infrastructure Development Corporation Limited. In his current capacity as the MD & CEO of Imagine Panaji Smart City Development Limited, he is entrusted with the responsibility of the implementation of the Smart Cities Mission in Panaji City under the aegis of Ministry of Urban Development, Government of India. Swayan has also been entrusted with the responsibility of implementation of AMRUT Mission as the Mission Director for enhancement of quality of life of its citizens with special focus on pedestrianisation and creation and upgradation of green spaces, parks and recreation centres.

Vishwanath S. is a Director of Biome Environmental Solutions Pvt. Ltd. and Trustee of the Biome Environment Trust - focused on assisting communities in water and sanitation solutions. Vishwanath has designed several hundred rainwater harvesting, groundwater recharge, eco-sanitation and wastewater recycling systems, besides being an influential story-teller, writer and educator on sustainable water and sanitation.

Urvashi Aneja is a Co-Founder and Director of Tandem Research. She works on the governance and sociology of emerging technologies; southern partnerships for humanitarian and development assistance; and the power and politics of global civil society. Urvashi is also an Associate Fellow at Chatham House and a columnist for the Indian Express. She has a PhD in International Relations from the University of Oxford.

Vikrom Mathur is a Co-Founder and Director of Tandem Research. He has over 15 years of professional experience, straddling research and policy advice, at the interface of societal change and global environmental risks, including climate change. His diverse research interests include: environmental decision-making in the face of scientific 'uncertainty' (particularly in relation to climate adaptation); social and cultural perceptions of environmental risk; dynamics between science and public policy; political and social context of scientific knowledge about nature; different forms of knowledge related to environment; cultural

dimensions of socio-technical transitions; governance of emerging technologies, and Cultural Theory. He has a PhD from the Institute for Science, Society and Innovation, University of Oxford. Vikrom is a Senior Fellow of the Observer Research Foundation, Associate Fellow of the Stockholm Environment Institute (SEI) and Senior Associate of Global Climate Adaptation Partnership (GCAP).

Zaheb Ahmad is a Research Fellow at Tandem Research where he leads the Sustainability Transitions programme. His work focuses on governance and social dimensions of transitions in the environmental sector. His master's thesis explores the Indian environmental regime in response to global environmental frameworks, and evaluates the effects and impacts of the Clean Development Mechanism on communities and the ecology in India. Zaheb holds a Master of Laws with specialisation in Environmental Law from the University of California, Berkeley, School of Law, and a Bachelor of Laws from Government Law College, University of Mumbai.

343 Coimavaddo Quitla,
Aldona, Bardez - 403508, Goa.

www.tandemresearch.org
hello@tandemresearch.org