

INDIAN URBAN FUTURES II

How should medium sized cities grow?

Report of the June 2018 symposium





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Preface.

The way forward

By Dr Nicholas Falk and Rowan Mackay

Following the successful second Indian Urban Futures symposium, the results of which are outlined in this report, we must now ask how we move forward. How can we begin to translate innovative ideas and small-scale initiatives into solutions at the scale of the problems we face?

Nicholas' original idea was to follow up winning the 2014 Wolfson Economics Prize by testing whether some of Ebenezer Howard's ideas for garden cities and European best practice could be appropriate for cities in the global south, starting with Southern India. Given the cultural and climatic differences the idea may seem absurd. But as urbanisation trends have become increasingly global over the past century, and given the institutional similarities between the UK and countries like India, these original principles are more globally relevant than one might assume.



movement is to meet the urban challenges of today, it needs to respond to the speed and scale of the problem and support sustainable, equitable and healthy models of rapid urbanisation.

We have brought our work in this area together under the project Smarter Urbanisation and Rapid Growth (SURGe) (www.smarterurbanisation.org). This means investing in the ideas and places with most potential to affect meaningful change in new and rapidly growing cities across the globe so that we can, like Shakespeare, catch the tides that shape our fortunes. And we have much to draw from to achieve this - from modern technology and harnessing the digital revolution, to building new partnerships and networks allowing us to pool resources, share knowledge and collaborate across industries, sectors and scales.

We believe the route to truly sustainable urbanisation is to focus on medium-sized cities of around 500,000 to 2m population, as these



That's not to say the original garden city principles are an easy fix. The urban issues that at the turn of the last century were confined to a handful of cities across Europe and the US, such as inner city pollution, affordable housing and a lack of access to green space, exist now at an increasingly global scale. Tackling pressures of climate change, rising inequality and the debilitating effects of urbanisation on public health therefore, require more than a set of principles. If a contemporary garden city



Images in sequence:

- Urban sprawl in Tamil Nadu. Credit: Author
- Apartments encroaching on farmland. Credit: Author
- Uxcester garden city proposal. Credit: URBED
- SCAD Eco-houses diagram. Credit: Jas Bhalla
- SCAD model Eco-house. Credit Vidhya Mohankumar

are where the majority of the world's urban population will live and offer the conditions for economic and social advancement. When innovative small-scale initiatives, such as those outlined in this report, are given the finance and technical and political support to impact at the metro city scale, cities like the historic city of Tirunelveli in Tamil Nadu or Amaravati, the new capital of Andhra Pradesh, have enormous potential to lead the change that is needed.

Building capacity will be crucial to ensuring solutions are resilient and led from the ground up as well as nationally. SURGe is establishing a platform and two-way-street for the exchange of knowledge, skills and funding between cities in India and the UK. Through linking educational institutions to local actors and industry, and finding practical solutions to sharing global best practice, we will identify projects that build capacity, establish new working practices and impact at the scale of the issues at hand.

To pilot this approach we are working with Social Change and Development (SCAD) colleges in Tamil Nadu. As The URBED Trust builds its first 'eco home' with SCAD in Tirunelveli, we aim to find partners that share our values and can help to build on the work done to develop a viable and scalable model of sustainable, low-cost housing. As global urbanisation trends are dominated by short-termism, appropriate technology and past

wisdom is lost and vulnerable groups are easily forgotten. But by working across sectors, borders and scales, the eco-homes project is beginning to show how our approach can challenge these trends through alternative, smarter models of urban growth.

Over the next year we will also be working with experts from UK and Indian universities to explore locally-led solutions to cleaning water and using it more carefully. We will be looking at more socially equitable and economically viable forms of land assembly and how public and private land can be better managed, starting with the railways who are major owners of poorly used land. We will be looking at how cooperative forms of housing management can attract investment and become viable at scale. And we will be holding Indian Urban Futures III in Tamil Nadu.

The Smarter Urbanisation web site is being set up as a platform and a two-way-street for knowledge exchange between our different countries and sectors.

At the end of this report, our Emerging Manifesto is the result of the two previous IUF events and will guide our work over the coming year. We invite you to respond to our proposals and to tell us how you would like to support Smarter Urbanisation and Rapid Growth.

1. Introduction

This year's Urban Futures event aimed to highlight the cross-disciplinary and multi-scalar nature of key problems facing Indian cities today, and explore potential solutions to addressing the scale and speed of the country's urban growth. Convened by The URBED Trust in collaboration with The University of Westminster, The Urban Design Group (UDG) and Social Change and Development (SCAD), the event brought together practitioners, researchers and students from various fields as part of an ongoing effort to share knowledge and best practice on how medium sized cities should grow, both in India and here in the UK.

This was the second event on the subject of Indian urban futures to be convened by The URBED Trust. Structured around four themes of Housing, Transport, Public Health and Community Engagement, the initial event in 2017 explored a number of small scale initiatives that took a holistic approach to achieving outcomes across each of the four topic areas. These case studies can be found in the report on the event, which sets out a series of recommendations for the Trust and its partners. Among these recommendations was highlighted the need to assimilate appropriate building technologies with aspirational housing typologies for improved collaboration between built environment and health professionals in the production of neighbourhood plans. The Smarter Urbanisation website can be used as a platform for knowledge exchange and sharing best practice as well as to reflect on how the partnerships and projects are progressing.

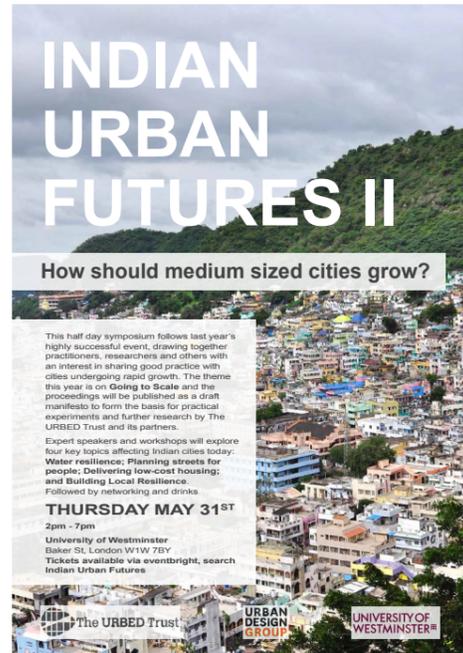


Image: Indian Urban Futures II poster. Credit The URBED Trust



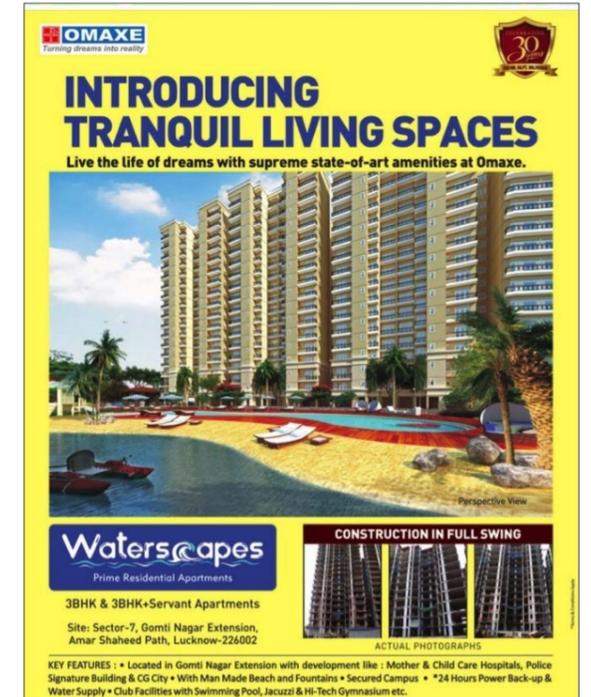
Images: Sunand Prasad delivers the opening address at IUF II (top) and Vidhya Mohankumar leads the workshop session on Building Local Capacity. Credit: authors

Building from last year's event, this year provided an opportunity to explore how these and other small-scale holistic initiatives could be delivered at scale and in a way that meaningfully impacts India's rapidly growing urban centres. The theme Going to Scale encouraged speakers to think about the capacity needed to deliver local projects at the scale of the city, and the changes that public and other institutions could make to support this. These questions were then carried through into the afternoon workshops where participants were asked to contribute to an emerging manifesto for smarter urbanisation and rapid growth. This manifesto is presented within this document and will form the basis of further research and practical projects by The URBED Trust and its partners over the coming year.



Dr Nicholas Falk is an economist, urbanist and strategic planner, who founded the research and consultancy group of URBED in 1976, and is executive director of The URBED Trust www.urbedtrust.com

Rowan Mackay is an urban designer and independent researcher specialising in participatory spatial practice. Formerly of the Andhra Pradesh Capital Region Development Authority he now works in local government in the UK, is an associate of Architecture Sans Frontières UK and studio lead at the Welsh School of Architecture.



Images: (top) Promotional poster for apartment complex in Lucknow, Uttar Pradesh. Credit: Omaxe. (bottom) Flooding in Chennai in 2015 was widely seen as a direct result of global warming. Credit: Anindito Mukherjee/Reuters

1. Going to scale

In his opening address, architect and former RIBA president Sunand Prasad emphasised interconnectedness of the challenges facing Indian cities today and recognised that such problems are not isolated to the subcontinent alone. He noted also the valuable lessons that Indian cities continue to teach us and renewed calls for a 'two-way street' of knowledge exchange between our two countries, before introducing the topics of the presentations.

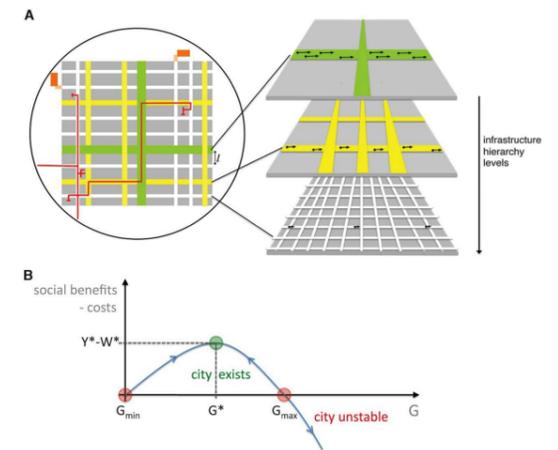
Speakers were selected in pairs, together providing a statement and response on the four event topics, drawing from case studies or their own research in those fields. The four themes were: planning connected neighbourhoods; ensuring water resilience; delivering low-cost housing; and building local capacity. The following summarises the presentations under the four topics.

a. Planning Connected Neighbourhoods

The speed and scale of urban expansion and peripheral development in Indian cities means it can be hard for city governments to respond appropriately. Infrastructure and public transport provision can often lag behind the pace of a burgeoning real estate market. Within this context Bill Erikson of The University of Westminster and Brian Love of Love Architecture looked at the role of strategic planning in mitigating the spread of disparate and disconnected urban settlements.

What size is the right size? Bill Erikson, The University of Westminster

The best way for medium sized cities to grow is to stay medium sized. This was the statement put forward by Bill Erikson in his presentation, on the question 'is there an ideal size for a city?' Drawing on examples from nature and the work of Luís M A Bettencourt on *The Origins of Scaling Cities*, Bill examined changing infrastructure and transportation needs and the effect on distribution of resources and services as cities expand. The presentation looked at examples such as Gurgaon, New Delhi, and how, without strategic infrastructure delivery keeping pace with disparate growth, the benefits of proximity are reduced as cities evolve as clusters of isolated and poorly resourced localities within a larger, ill functioning sprawl.



Images: Infrastructure hierarchy and stability changes to city scale (top) and an example of a disconnected development parcel on the urban periphery. Credit: Luís M. A. Bettencourt 2012 *The Origins of Scaling in Cities* SFI WORKING PAPER: 2012-09-014

ConnectedCities Brian Love, Love Architecture

Responding to the situation described by Bill, Brian presented the ConnectedCities concept as a solution for transit oriented, density appropriate urban growth. The concept (see www.connectedcities.co.uk) draws from Garden Cities and 'pedshed' principles and proposes a strategic, regional planning approach to urban development, centred around existing rail infrastructure. Focusing on the rail network around Tirunelveli in India's south-eastern state of Tamil Nadu (home to the SCAD colleges and site of The URBED Trust Eco Homes project), Brian proposed that the adoption of a ConnectedCities approach to urban development could deliver housing for up to 365,000 people at appropriate densities and with access to sustainable transit. Additional work into appropriate housing typologies further demonstrated the multi-scalar approach of the ConnectedCities concept.

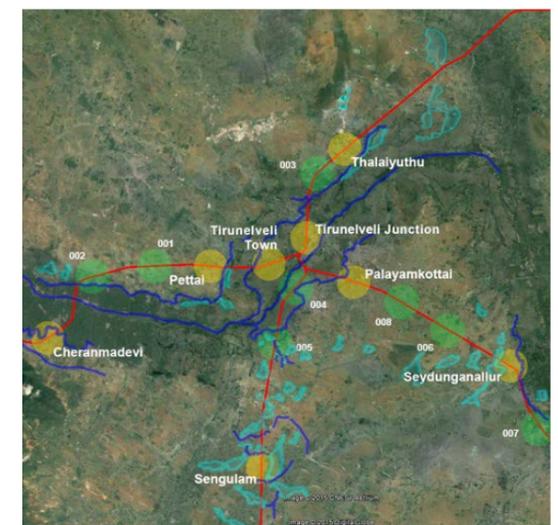


Image: Plan of the Tirunelveli district showing the ConnectedCities concept applied throughout the region's rail network

b. Ensuring Water Resilience

Around 50 percent of India's annual precipitation is received over approximately 15 days in the year. Of this, nearly 50 percent is wasted due to inefficient use and limited storage capacity. Urbanisation trends across the country compound these and other water related problems, such as contamination and a rapidly reducing water table. Unplanned urbanisation disrupts natural water cycles and disregards centuries of cultural knowledge and tradition aimed at ensuring that this precious resource is available for all. Responding to this challenge Dr Mala Rao of Imperial College London and artist and tour organiser Maxine Relton explore the nature of the problem at a national and local level, and highlight some of the solutions to strengthen water resilience in India's urban areas.



Image: urban settlement encroaching on water body, Andhra Pradesh

Dr Mala Rao, Imperial College London

Highlighting the problem of water security at the national level, Mala looked at what needs to be done at city-wide and local levels and what lessons should be learned from global case studies. In addition to interventions such as rainwater harvesting, surface water systems and tackling excess use from luxury development, Mala highlighted the importance of addressing gender inequalities due to water scarcity and poor water quality. Women should participate in water resource management, taking account of the fact that women are responsible for the household water supply and consumption. Initiatives should make better use of women's interest in social networks and working together. They should build on India's track record of women's successful participation in social audits, to monitor regulation of water use in water stressed areas and protection of groundwater.

Maxine Relton, Artist and tour organiser

Continuing the theme of taking a locally-led approach to addressing a national problem, Maxine showcased the Save the River Thamirabarani competition she ran with female SCAD College students in 2018. The competition aimed to introduce students to the various threats facing the river - Tamil Nadu's only perennial river which runs through the region of their 7 colleges - and the kinds of remedial action that can help to improve water security for the local communities. Asked to produce an advertising campaign to raise public awareness of the state of the river, competition participants researched contributing factors to the river's pollution and engaged with local industry to identify how these could be mitigated. A video showing highlights of the competition can be found on the SURGe website at www.smarterurbanisation.org

To die for: Water tankers, public taps are Madhya Pradesh's riot spots. Jeevan Malviya, wife Sita Bai and son Raju were killed for drawing water from a supply line. The state is on a water-clash alert – 50 violent incidents have already been reported this month

WATER WARS



Jostling crowds surround like this play out across

Image: A Climate of Conflict, The links between climate change, peace and war. London: International Alert Smith and Vivekananda, 2007



Image: Student poster from the Save The River Thamirabarani competition. Credit: author.

c. Delivering Low-cost Housing

According to government figures, India has a housing shortage of 18.8 million homes. Addressing this shortfall requires a scale of intervention equal to that of the problem. However conventional approaches to volume house building (typically market-led, speculative real estate) fail to provide for those most in need of safe and secure living conditions. They compound environmental and social problems as a result of inappropriate design and building technology. Addressing the increasingly global challenge of delivering low-cost housing at scale, Amirtan Charles from SCAD Colleges in Tamil Nadu and Deb Upadhyaya from the Academy of Urbanism discussed the role of institutions in exploring new ideas to meet this need and what is needed in order to deliver these ideas at a scale the country needs.



Image: urban expansion and volume housing development, Andhra Pradesh

Amirtan Charles, SCAD Group, Tirunelveli, Tamil Nadu

After an introduction to the work that SCAD does to support vulnerable populations in Tamil Nadu, Charles's presentation highlighted these groups' multiple and different housing needs and illustrates work that the college and The URBED Trust are doing to address this (www.scad.org.in). With a background in delivering small-scale training programmes for vulnerable groups, the new Eco-homes project is trialling a sustainable and scalable housing model to meet these needs in Tirunelveli as the city continues to grow. Recognising that delivering low-cost housing requires innovation and collaboration across different (and typically siloed) industries, Charles also showcased the work they have been doing to join up the SCAD engineering and business schools with the Eco-homes project. The intention is to build capacity within the sector in order to widen participation in the delivery and evaluation of sustainable urban development.

Deb Upadhyaya, Academy of Urbanism

Deb presented "Perceptions and Reality : Order in Chaos" highlighting five core principles that underpin delivery of quality low-cost housing at scale: Firstly **choice**, both in the mix of tenures and in the ability of users to adapt and grow their dwellings as circumstances evolve and change; **connectivity** to common infrastructure and to wider social, environmental and economic context; consideration of economies of scale, value and viability that makes it a **commercial** endeavor when planning in volume and at pace; innovative housing models require **collaboration** to create a shared vision; and lastly the **culture** of how we think about housing, our dreams and aspirations, needs to accommodate a greater sense of sharing and living within our means. He used the two successful schemes of his mentors, Charles Correa's Belapur, Navi Mumbai and Prof. BV Doshi's Aranya, Indore to highlight the aforesaid principles underpinned by their approach to flexibility, adaptability, modularity and establishing a vernacular identity using local materials.



Images: Location of Tirunelveli in south India (top), SCAD engineering students receive certificates for the 2017 URBED awards (middle) and the Eco Homes project begins construction in Tirunelveli (bottom). Credit: author.



Image: sporadic mass housing developments on the edge of Mumbai, 2016. Credit: author.



d. Building Local Capacity

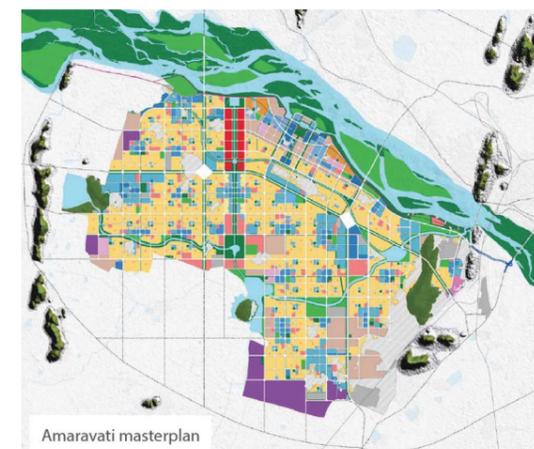
The ways in which cities expand and grow often leads to increased inequality and the displacement and exploitation of existing communities and economies. However urban growth has huge potential to positively impact not just those likely to be directly affected by rapid and large-scale development, but also the long-term social and economic resilience of the city as a whole. For this set of presentations Rowan Mackay examined the process of landpooling and who the winners and losers are likely to be in the construction of the 'people's capital' of Amaravati, India's largest city building project to date. In response, Darshana Chauhan presents a potential solution to building local capacity at scale, in her project 100 Public Spaces.



Image: Students for Change article cover

Rowan Mackay, former Urban Designer for Andhra Pradesh Capital Development Authority, Amaravati

The new city of Amaravati, currently under construction in the south eastern state of Andhra Pradesh, has been dubbed by authorities as the People's Capital. This is due to the use of landpooling to enable to the development of the new city, which has made the 24,00 rural landowners living in the masterplan area owners of developable urban land effectively over night. The land pooling process has enormous potential to provide existing residents with a sustainable livelihood and the city with a resilient local economy, but only if the once rural landowners are empowered with the capacity and skills to participate in the process of developing the new city. In a situation common to development throughout the country, vulnerable rural landowners are being exploited out of their land assets in exchange for nominal and finite cash sums, and putting the legacy of the People's Capital in jeopardy.



Images: Rural landowners examine their allotted plots within the new master plan (top). Credit: author. The 2016 Amaravati master plan (bottom). Credit: APCRDA.

Darshana Chauhan, Massive Small, University of Westminster 100 Public Spaces

Responding to the need to build local capacity to ensure equitable processes of urban change, the 100 Public Spaces project presents a replicable model for facilitating community action by engaging with universities and colleges. Inspired by the Indian Government's Swachh Bharat community service initiative, 100 Public Spaces challenged university architecture students through a competition, to engage with local actors to improve a public space in their city as part of their taught curriculum. The result has been the implementation of 471 projects to date, each acting as a catalyst project, improving community action and engagement around urban environmental issues and building the capacity of the students to lead innovative community projects through their own practice. The project shows the potential for UK-India university partnerships to build the capacity of industry as well as communities to lead positive change across India's cities.



Image: Project Tulips Initiative, Noida. Credit: author.

3. Keynote Accelerating Sustainable Urbanism

By Vidhya Mohankumar, Urban Design Collective, Chennai

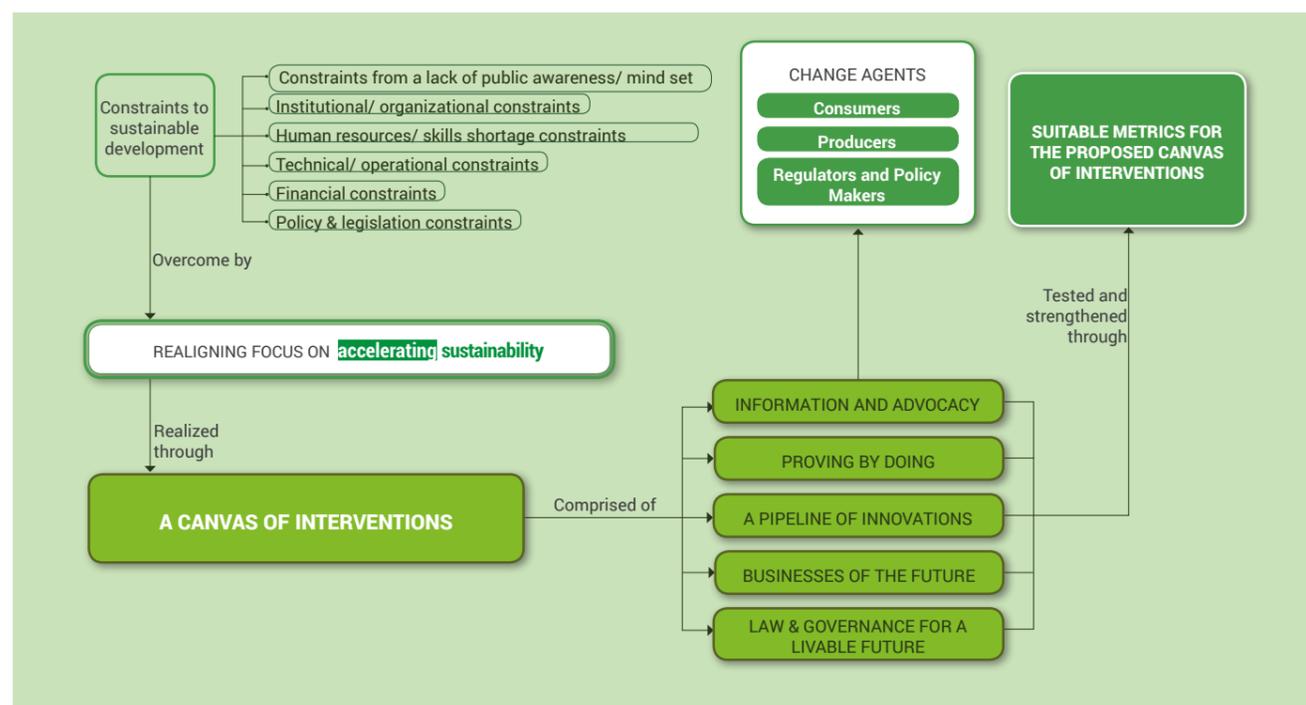


Image: A route map for accelerating sustainable urbanisation. Credit: Author

We are moving towards an increasingly urbanized world and yet the continued degradation of the urban environment has been caused by a multitude of drivers, including prevailing economic models; patterns of consumption and production; and weaknesses in governance. These governance models and their accompanying institutional arrangements have also, in many cases, exacerbated the problem by precluding the prioritisation of sustainable development objectives. Climate change has also brought to the fore other glaring disparities such as inequality, repression of indigenous cultures and extreme corporate strongholds. It is clear that in

order to address issues such as global warming, rising inequality and the often debilitating effects of urbanisation on public health, we must make our cities more sustainable.

While the solutions to sustainability have not been scarce over the last twenty years, the reason we haven't made much progress in beating the Keeling curve of global warming is that the status quo has largely focused on simply arriving at these solutions and not on adopting them en masse. We need to move from a society that works on arriving at solutions for sustainability to one that focuses its energy on the accelerated adoption of sustainable solutions and practices. We can and MUST

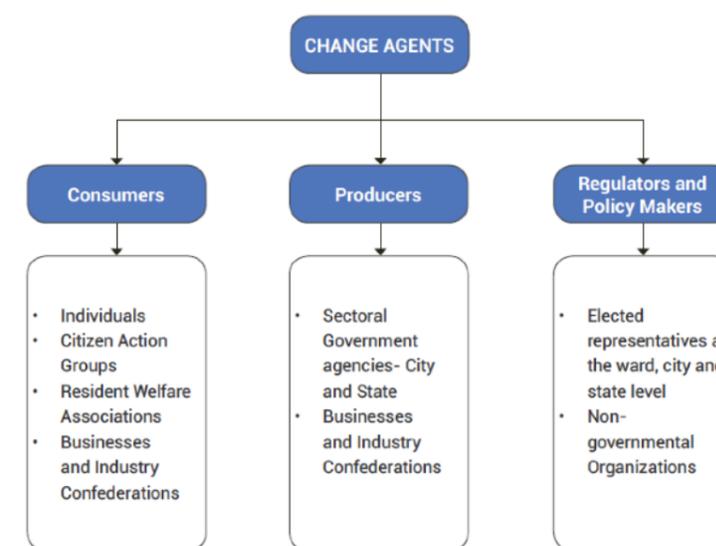


Image: Change agents to implement the canvass of interventions (left), the SCAD proptotype eco-house by Urban Design collective (right). Credit: Author



work towards an environment that fosters new business models, a pipeline of innovations, new jobs and interventions with multiple benefits that cut across multiple sectors. For this, it is important to work with the idea of the competitive city - one that competes for economic prowess - opens up opportunities to steer that economy towards a more ecological and sustainable models of production and consumption.

This line of thinking forms the central premise of the proposed canvas of interventions, put forward by the Urban Design Collective, comprising the following broad thrust areas:

- A. Information and Advocacy
- B. Proving by Doing
- C. A Pipeline of Innovations
- D. Businesses of the Future
- E. Law & Governance for a Livable Future

The geographic scales at which the canvas of interventions will operate starts at the neighbourhood level and moves on to the level of the city, city regions and eventually the state.

A significant outcome that could be achieved through these interventions is for them to show enough promise to become an integral part of

the political manifestos of the future.

All this is certainly a challenge to our ingenuity and a litmus test for human civilization and will not be achievable without concerted actions on the part of 'change agents'. These change agents have been grouped into three categories based on their roles as producers, consumers and regulators & policy makers as shown in the diagram above.

Lastly, in order to know if the proposed canvas of interventions is effective, a set of metrics framed as goals to be achieved by 2025 are identified across the sectors of Energy, Water, Waste, Food, Mobility, Built Form and Open Spaces.

These goals are defined in a way so as to accelerate the adoption of sustainable solutions and practices across these six sectors by 2025. In that sense, they are ambitious goals yet achievable if strategically addressed through the proposed canvas of interventions.

More information on Vidhya's work and the UrbanDesign Collective can be found at urbandesigncollective.org

4. An Emerging Manifesto for smarter urbanisation & rapid growth.

The complex problems arising from rapid urbanisation in the global south require solutions based on collaboration and knowledge-sharing across industries, sectors and scales.

Issues such as changing climates leading to health crises and resource scarcity, or hyper commodified land markets resulting in growing inequality and exploitation, need to be met with appropriate and innovative solutions at both a national and local level.

To realise sustainable, healthy and socially equitable forms of rapid urbanisation we must work across boundaries, building new partnerships and networks to pool resources, share knowledge and invest in the enormous potential that exists in our towns and cities.

The following statements have been arrived at through workshops and discussions at the two Indian Urban Futures symposiums in 2017 and 2018 and will guide research and live projects undertaken by The URBED Trust and its partners as part of the SURGe project over the coming year. They are put forward to encourage further discussion and more collaboration in demonstration projects that ‘go to scale’.

Housing

Appropriate Design. To meet the needs of India’s urban poor, housing provision must respond to existing socio-cultural and built contexts, providing safe, energy efficient design and construction, utilising appropriate materials and technologies to create homes that are integrated as part of the existing urban and socio-cultural fabric.

Affordable Neighbourhoods. Low-cost housing should provide long-term security, empowerment and autonomy to low-income and vulnerable groups. Affordability must be protected in perpetuity in relation to local median incomes and across a range of tenures. Land assembly and (re)distribution should empower local (landed and landless) stakeholders and support the emergence of fine-grained and scalable neighbourhoods. Development financing and legal options and partnerships that enable collective control and support multiple livelihoods should be promoted. The management of homes and properties must be resident-led.

Infrastructure

Sustainable Transport. Strong leadership and a cross-sector approach is needed to address the crippling problems of congestion and air pollution in cities undergoing rapid growth. Infrastructure provision must be strategically planned to prioritise active and rapid transit, and backed up by national policy and public education programmes. Rationalisation must not come at the cost of people-centred streets.

Strategic Planning. Rapid urbanisation must be met with strategic infrastructure planning and upgrading at a metropolitan scale. A robust planning system is needed to enable incremental delivery of strategic infrastructure networks with long-term financing mechanisms including substantial land value capture. In addition if urban infrastructure is to lead sustainable and innovative urban growth, industry must foster new and radical leaders of change by equalising the gender balance and broadening the professional capacity of the industry.

Health

Public Education. Health is a major motivator for collective action. Urbanists and health professionals must work together to address complex urban health problems. Infrastructure provision must be paralleled with public education and efforts to change cultural aspirations which negatively impact public health.

Water Resilience. The right to water must transcend corporate and private interest. Natural and historical water systems must be protected and incorporated as part of urban infrastructure and amenity networks. Civic (re)education on the environmental, social, economic and cultural value of water and natural water cycles needs to be supported and these values must form the basis of policy and action at the local as well as strategic metropolitan and regional scales.

Community

Civic Spaces. Traditional, chaotic, people-centered streets are the lifeblood of civic participation and must be legitimised. Strengthening the public’s role in city making must start by building the capacity of existing community structures, such as self-help and women’s groups, and providing the space in which collective power can be exercised, and so to empower citizens to shape the places in which they live and work.

Building Capacity. To support the emergence of resilient urban geographies, communities and economies, processes of urban development must be made accessible to underrepresented and vulnerable groups through meaningful participation and collaboration between state, private and community actors. The dissemination of information, civic education and (professional and local/community) capacity building are essential components in the pursuit of equitable urban growth and everyone’s right to the city.

