Proceedings

International Conference on

Pathways to Sustainable Urbanisation

January 29 – 30, 2016, Jawaharlal Nehru University, New Delhi

South Asia Sustainability Hub and Knowledge Network (SASH&KN) @ TRCSS, JNU & STEPS Centre, IDS and SPRU @ University of Sussex
http://www.jnu.ac.in/TRC/SS/
http://steps-centre.org/

Transdisciplinary Research Cluster on Sustainability Studies (TRCSS)
Centre for Studies in Science Policy, School of Social Sciences
Jawaharlal Nehru University
New Delhi - 110067

Acknowledgements

Preface

International Conference on *Pathways to Sustainable Urbanization* was aimed at exploring the possibilities of sustainable urban transformations. This conference was held at Jawaharlal Nehru University, New Delhi during 29-30th January 2016. It was organized by South Asia Sustainability Hub & Knowledge Network (SASH&KN), functioning under the Transdisciplinary Research Cluster on Sustainability Studies (TRCSS), Jawaharlal Nehru University, New Delhi.

Transdisciplinary Research Cluster on Sustainability Studies (TRCSS), JNU is a collaborative initiative of four Centres within the School of Social Sciences, Jawaharlal Nehru University (JNU), New Delhi, namely Centre for Studies in Science Policy (CSSP), Centre for the Study of Regional Development (CSRD), Centre of Social Medicine and Community Health (CSMCH) and Centre for Informal Sector & Labour Studies (CIS&LS). One of the major initiatives of the TRCSS, JNU is South Asia Sustainability Hub & Knowledge Network (SASH&KN) – a joint initiative of JNU and STEPS Centre. STEPS Centre is a joint venture of Institute of Development Studies (IDS) and Science Policy Research Unit (SPRU), University of Sussex, UK.

TRCSS, JNU is greatful to the generous financial support it has received from the STEPS Centre @ University of Sussex, UK, Jawaharlal Nehru University, New Delhi and Indian Council of Social Sciencs Research (ICSSR), New Delhi for organising this conference. The two day conference has brought together national and international experts from academia, local government, civil society organizations, independent scholars and activists. This conference was structured to have a combination of plenary presentations, case studies and three Working Group discussions to work towards trans-disciplinary research and action.

Pranav N Desai

Contents

1. Concept Note

Background

Whilst South Asia and India experience rapid urbanisation and face issues with regard to their own readiness to meet the challenge of sustainable management of development processes, it is apparent that intensification of the search for pathways to sustainable urbanisation will have to become an important priority. Whilst contestations over the meaning of sustainability among policy makers and academics continue, the region is also compelled to ask what its own plan should be in the short and longer term for sustainable development of cities, be they small or large. Even while some are rightly questioning the inevitability of rapid urbanisation, it is certain that enhanced social justice will be decisive for the achievement of health and livelihoods for the poor and marginalized in urban areas. Given the rapid pace of urbanisation in India and South Asia, there are major impacts on rural areas in terms of re-shaping of lifestyles, livelihoods, and patterns of consumption. Provision of insufficient infrastructure to accommodate rural to urban migrants and growth of informality in industry and services is resulting in the persistence of caste and religion based divides in the urban slums, creating a situation of social apartheid. Urban real estate growth, a higher concentration of middle classes and social apartheid are associated with the emergence of vested interests. This imperative clearly demands a focus on the assessment of mainstream pathways to growth under perusal from the standpoint of their potential to contribute in practice to a sustained development of productive opportunities and livable urban spaces.

While agrarian distress generates debates on the sustainability of high external input based systems of agriculture, questions are also beginning to be asked in the region with regard to how resilient its current structures and processes of urbanisation are. In the context of the poor and marginalized, one is now questioning the methods of dealing with the challenge of their growing vulnerability to disasters related not just to climate change, but also to a lack of reliability of access to essential services and productive opportunities. The latter is becoming a major concern, whilst issues of environment and health are also acquiring increasing importance in the struggles being undertaken for the achievement of social justice in urban areas.

After the introduction of neo-liberal economic policies in the early 1990s, cities were seen as engines of growth. Promotion of the path of state disengagement in urban transitions led to the replacement of a manufacturing based economy with a globalizing service

economy. Initially, the narrative of restructuring cities was to achieve a vision of 'world class cities', and more recently 'smart cities'. The world class cities agenda was intended to transform the existing landscape into new urban spaces comprising of commercial complexes, malls, large integrated residential complexes, and existing or planned modern infrastructure. Mandatory reforms were undertaken, and schemes such as JNNURM were introduced, aimed at upgrading urban infrastructure through supporting large-scale investments and technologies such as metro, flyovers and waste-to-energy plants.

Even while the outcome of such smart cities is yet to be experienced the proposed 'smart' technological and managerial solutions that deal with the problems of existing cities selectively and create new cities are considered to be inadequate for tackling contemporary challenges of urbanisation. Thus, whilst urbanisation continues to create new opportunities for some, its current form and content do pose enormous challenges for the health and livelihoods of an increasing number of disenfranchised, poor and marginalised citizens both within the cities and in transitional peri-urban areas. Peri-urban spaces are particularly vulnerable in this respect with intense competition over land and other resource use, environmental degradation and increasing access deficit. There are recognised tensions between urban development and environmental protection. At the national and local levels, formal decision-making takes place in the context of multiple uncertainties. Specific development interventions, which are often based on technologies that have proved 'successful' elsewhere, have brought long-term and often hidden costs in terms of the environment and human well-being. In addition, the very speed of growth challenges the capacity of public institutions and society to establish the infrastructure necessary to support these interventions.

It is clear that South Asia and India need to forge new pathways to deal with the emerging challenges of ecological and social justice. Pathways to sustainable urbanisation within this region will determine the outcomes with regard to social progress on a global level in the 21st century. In this conference, we therefore propose to focus on the possibilities for sustainable urban transformations. This conference involves STEPS Centre researchers, JNU faculty and partners active from within the civil society in India and elsewhere in the world. As a community of practice focused on the theme of sustainability studies, we seek to enhance understanding of how and why particular urban development and associated technological trajectories are dominant, the 'winners' and 'losers' that emerge and the implications for the environment, health and social justice. We have also been exploring possibilities for building alternative, more sustainable urban development pathways and to

enhance their appreciation. These pathways might build upon the skills, ideas and experiences of diverse stakeholders who are generally absent from formal decision-making processes, and may bring together often divergent initiatives concerned with the environment and with social justice in urban areas. Local innovations, new engagements across the formal and informal sector, and social and political mobilisations, often in informal settings, have resulted in the emergence of multiple alternative urban practices. These have potential for enhanced social justice, environmental integrity and synergies across the urban-rural interface.

This conference is part of a process of building an expanding network of partners across disciplinary divides and sectors. It will seek to develop opportunities to build upon these alternative practices as an integral part of transformative change for sustainable city region planning. We will identify the windows of opportunity for urban regeneration and renewal as concerns about various aspects of urban decay grow. Ultimately, we will seek to support the strategies that governments and social movements can pursue to work toward regimes of urbanisation that support sustainability.

Contribution of the seminar to the existing body of research

Through this conference, as mentioned earlier, we will look at windows of opportunities for urban regeneration and renewal in the context of rapid urban decay. We will explore possibilities for building upon alternative practices and creating new alliances as an integral part of transformative change for city region planning. Finally we will seek to support the strategies that governments and social movements can pursue to work toward regimes of urbanisation that support sustainability.

Through a combination of plenary presentations, case studies and working group discussions, we will work towards new research based on critical policy and engagement agendas that will consider how transformations to sustainable urbanisation will happen and through which mechanisms. We will engage with the following cross cutting themes:

a) Ideas of green urban development (land-use politics and city region planning)

b) Technology choice and innovation

c) Institutional change - A shift from government towards new models of governance (Decentralization, PPP etc.)

d) Financing and incentives

e) The interface between formality and informality

f) Social mobilization and challenges of alliance formation for urban sustainability

Working Groups (WGs)

With these themes in mind, three conference working groups will bring together diverse disciplinary and sectoral perspectives to bear in discussing priorities for a forward looking research and engagement agenda. The focus of the three working groups is outlined as follows:

WG-1: *Environment, Health and Sustainable Cities: What next for the Nexus?*

The technologies and systems designs that are employed for achieving the objectives of sustainable urban development are critical to the availability, distribution and quality of goods and services that urban residents are able to access. Urban areas draw heavily on natural resources for the provisioning of food, water and energy, whilst contributing to the degradation of the ecosystems that support them. Sustainable urbanisation requires the uneven nature of current provision to be addressed, and both environment and human well-being to be placed centrally in the planning process. This would require not merely techno-managerial solutions but understanding and addressing the structures of knowledge generation and governance as well as the political and socio-cultural responses to them. It also requires new alliances, enhanced participation in decision-making at all levels and integration across sectors. The strength of the concept of 'the Nexus' is often seen as its call for an integrated planning for water, food and energy, but critics warn that it is dominated by top-down approaches, often North to South and linked to external interests, and outsider generated managerial solutions. Therefore, there is a need to spell out the inter-linkages in the context of sustainable urban planning through widening and deepening the content of 'the Nexus' and the dimensions it addresses. T**his working group will highlight the multiple nexuses that are occurring in processes of urbanisation, both formal and informal, recognised and unrecognised. For example, knowledge, technology and ecology, viewed from the perspective of diverse socio-economic sections would link water-food-energy to at least three other dimensions – waste, land use and livelihoods – with environmental and health consequences as the outcomes. We will explore what sort of conceptualisation of the Nexus, and approaches to research and engagement are helpful in contributing to sustainable cities. We will be concerned with the potential to support positive Nexus interactions that will contribute to sustainable city transformations.**

Focal areas for discussion will include: 1) How have mainstream interventions in the past caused unexpected environment, health and exclusionary outcomes, and what can be

learnt from them? and 2) What can we learn from informal/hidden Nexus interactions and citizen led initiatives with positive Nexus interactions, about transformations to sustainability? In considering the sort of transformative action that is required to address Nexus challenges and realise hidden opportunities, we will build on earlier initiatives led by members of the working to discuss a forward looking research and engagement strategy.

WG-2: *Growth and Urban Sustainability*

This working group begins with a premise that the existing economic and social model in India is not going to address the issue of socially just growth that aims for resilience and environmental sustainability in the long run. The focus of the conversations of this working group will be on looking at the specificities of the discourse on development and the politics in India and how to build support for a New Development Path - which includes the three core dimensions of *socially just*, *resilient* and *green development.* Specifically, the WG on Growth and Urban Sustainability will critically examine the changing nature of the Indian State, shifts in India's growth strategy in the last three decades, locating them in the larger macro-economic context, and exploring its implications for social justice and environmental sustainability, focusing on urban-centric expansion processes.

The working group will evaluate the current development path from the vantage point of urban changes related to land and associated natural resources in terms of ownership, access and use on the one hand and their environmental implications on the other. To elaborate, an attempt would be made to understand how the urban growth processes leading to changes in land-use and ownership of land, for example, are logically connected with the way environmental modifications have shaped up. Further, the working group would explore the implications of the above mentioned land-use and environmental changes on dynamics of labour and livelihood.

In order to build a sustainable growth path a better understanding of the economic, political and cultural forces resisting change is also needed. Only a thorough analysis of the political economy in transformation societies allows formulating sensible and politically viable strategies for change. Overall, the working group should contribute to the strategy debate of how a broad societal coalition can be formed which can muster the political muscle to shift the development path towards a more sustainable development path.

In sum, the group will analyze the political economy of change in the Growth Strategy and its implications for both social justice and environmental sustainability. The mandate of this collective of research would be not only to engage with the changes

in the instruments of growth, but also to locate it within their institutional context, in particular land, labour and centre state relations. The group will also try and analyse how the political field is framed and how this allows rent-seeking elites to enlist potential change agents into their status quo alliance that is not in favour of moving towards a sustainable future.

WG-3: *Social Mobilisation and Sustainable Urban Transformation*

It is our understanding that the processes of social mobilization will play a critical role in the search for intensification of pathways for sustainable urban transformations. Social mobilization often emerges from the demands for the increase of basic necessities and from the contradictions developing due to the rising inequality with regard to their realization among different socio-economic groups. Today, the rising middle class population of South Asian cities is aspiring for increasing their own consumption and improving lifestyle. At the same time, a majority of the urban residents, especially the poor and the marginalized are constantly struggling to have access to basic services. Social movements face a difficult challenge with regard to the framing of demands for these socio-economic groups in the wake of declining reliability of services, increased vulnerability of urban settlements to man-made disasters, rising costs of social reproduction of urban living, withdrawal of the state from its welfare function and a shift towards the public-private partnership model of governance of urban renewal projects in rapidly urbanizing South Asian cities.

In order to provide immediate relief to the urban residents from the ever-growing pace of the problems, the processes of social mobilizations often utilize the spaces available in the mainstream pathways to directly engage with the policy makers for the implementation of people centric policies. Additionally, it is also realized that social movements should intensify the search for technological alternatives and alternate organizational forms for providing basic services in urban areas. Since, the challenges of urban sustainability are closely associated with the forms of urban life, their functioning and viability, it is necessary to point out that the strategies of immediate relief must not conflict. They should rather, provide impetus to the processes of long term urban transformation. In essence, sustainable urban transformation requires identification of new strategies and pathways, and these pathways should be based on the principles of simultaneous realization of social, ecological and economic justices with reference to the deployment of strategies of urban planning interventions.

This WG will deliberate on the sources of un-sustainability of urban process as a result of ever widening metabolic rift, increasing private cost of personal consumption such as housing, water, waste etc. (which increases the cost of social reproduction of labour) and social conditions of production such as the challenges of dignity and ethnicity (gender, caste, religion and region etc.) that often lead to discrimination and marginalization of a larger group of urban residents. We propose that these sources of un-sustainability should be measured through the parameters of a) reliability of affordable access to basic urban services to the poor and marginalized, b) reducing their vulnerability, c) increasing resilience of the urban communities through transformation led by provisions of opportunities for self-organization and adaptation to the upcoming challenges, and d) regeneration and renewal i.e. sustainable structural transformations.

In order to explore the challenges of sustainable urban transformations we propose to adopt the research methodologies employing the principles of co-design and co-transformation and upgrading the processes of knowledge production and capability development to ensure better success with regard to the promotion of social carriers of alternate pathways. For illustrative purposes, we propose the focus of co-design and co-transformation efforts to be followed for developing the future agenda of urban sustainability:

i) Knowledge production – Identification of the contribution of previous and existing social movements in the process of urban knowledge production - what has been done and what can/should be done?

ii) Encounter policy makers – Identification and implementation of the strategies of participation, dialogue and advocacy

iii) Influence governance – Contribution of social movements in influencing the decision-making processes of the government, both previous and existing strategies

iv) Sustainable urban transformation – Identification of opportunities and pathways that facilitate processes of self-organization and regeneration aimed at building social and ecological resilience to existing and upcoming adversities

This WG will deploy its future research agenda on three sites namely Delhi, Kerala and Shimla. Deliberations during the conference will derive the detailed agenda for each site and its methodological aspects with reference to sustainable urban transformations.

2. Introductory Session

*Chair – **Ian Scoons***

Ian Scoons, Director (IDS), chaired the introductory session. He extended a warm welcome to all the participants and hoped that such inter-disciplinary discussions would be helpful in opening up many more discourses and narratives in the context of urban sustainability. He informed the audience about various collaborations of STEPS in different countries like Africa, Latin America and China to name a few. He asserted that these collaborations have been working over the years, allowing them to understand different perspectives and meanings of sustainability. He concluded on an optimistic note and expressed his delight at the collaboration between STEPS and JNU for engaging and interacting on a wide array of issues and welcomed Pranav N Desai to formally introduce the agenda of the Conference.

*Welcome and Introduction to TRCSS – **Pranav N Desai***

Pranav N Desai talked about the importance of trans-disciplinary research. He spoke about the activities of TRCSS-JNU and other collaborative efforts carried out by JNU vis-à-vis sustainability. He pointed out that although most Centres in JNU were interdisciplinary, trans-disciplinary structure of research was relatively new. He emphasised the importance of trans-disciplinary research to the university as it gave a platform for interaction of different Schools and Centres to jointly work on projects.

He stressed on the need to focus on projects around the subject of urban sustainability as without urban sustainability it is questionable whether the other sustainability goals as outlined in the Sustainable Development Goals (SDGs) could be achieved. He also mentioned that apart from building a hybrid platform, such trans-disciplinary interactions will help in launching new courses at Masters and PhD level in Sustainability Studies. He summarized his message by highlighting the point that we could achieve the goal of livable cities by involving academia along with the government and industry.

*Introduction to the Conference – **Dinesh Abrol** and **Fiona Marshall***

Dinesh Abrol outlined the scope of the Conference. He said that the STEPS Centre and JNU were only one set of participants and that there would be many more pooling in

from diverse sectors, people who were already engaging with sustainability challenges. He added that SASH&KN and Friends of Sustainability would bring together people from different disciplines and backgrounds which would be challenging enough by itself in terms of co-ordinating different disciplines.

In the context of global sustainability, he acknowledged that there existed multiple contestations within the subject, a lot of ground to cover, but promised to addressing that issue. He contrasted the mainstream pathways to sustainability such as smart urbanisation to the alternative pathways like social mobilization in which wise judicial interventions and social movements played a key role. To systematically address the sustainability goals, the issue-based interventions alone would not help, he opined. He suggested that it would be possible only by adopting the methodology of interdisciplinary scholarship as well as outreach efforts that were co-designed and lead to co-transformation. He also spoke about the way the Conference was going to move forward. Through the discussions in three working groups, the joint research agenda as well as specific objectives would be evolved in the end, he added.

3. *Session 1:* Current urban sustainability research by JNU and STEPS Centre

The session was chaired by Brian Wynne and co-chaired by Archana Prasad. The session focused on the work done so far by different centres at JNU in collaboration with the STEPS centre and other organizations in India on sustainability and urbanisation. This was mandated to set the tone and direction of what kind of data, information, research, knowledge and questions were already available in order to take on further studies and activities.

Understanding Environment and Poverty Interactions for Sustainable urbanisation in India -
*Fiona Marshall and **Pritpal Randhawa***

Pritpal Randhawa made a presentation on the topic "Understanding Environment and Poverty Interaction for Sustainable Urbanization in India" in order to reflect on the STEPS Urban Sustainability work in India. In his presentation, Randhawa discussed two interdisciplinary and multiple partner collaborative projects, one on urban waste management and second on peri-urban agriculture. Both these projects looked at the formal and informal and the urban and the rural as a continuum. He emphasized that contemporary urbanisation should be looked in the context of the post 1991 neo-liberal policies framework.

He informed that the project on urban waste management looked critically at the technology-driven dominant paradigms of waste-to-energy and suggested alternative pathways of managing urban waste. He further explained that the process of urbanisation was expanding the peripheries of cities. As a result, rural areas were highly impacted by it. Urbanisation was usually seen as detached from its rural peripheries in his view. Through the study of peri-urban agriculture Randhawa emphasised that peri-urban areas faced multiple challenges, where managing environment was as important as regulating urbanisation process and government interventions aimed at protecting environment could often result in disrupting other ecological systems and ecosystem services. Randhawa concluded that environmental initiatives in both urban and peri-urban areas were disjointed from health and the livelihood of poor. Regulations were unable to cope with environmental degradation. There was an interface between formal and informal in diverse ways (governance's arrangements, practices etc.) which should have been taken into account while formulating the policies he said. He cited several examples of local practices and innovations that could contribute in building alternative pathways for environment health and social justice.

*Health, Environment and Sustainable Urbanization: A Community - Systems Analysis Approach – **Ramila Bisht***

Ramila Bisht from the Centre of Social Medicine and Community Health (CSMCH) of JNU talked on the issues of health, environment and sustainable urbanisation taking a community–system analysis approach. She explained that the power relations, national and international academic perspective and policies influenced the shaping of the discipline of public health. She established the linkages on how food, nutrition, housing infrastructure, transport formed a part of the urbanisation process and how they influenced individual and public health. She informed that many new health challenges were emerging as a result of rapid urbanisation that needed to be studied and accounted for. CSMCH as a centre was adopting an interdisciplinary and collaborative approach to identify and study some of those issues. She emphasized that while studying the health issues, social factors like caste, class, gender etc, political economy along with politics of knowledge had to be kept in mind. She advocated a 'bottom-up approach' that starts with people while learning from them.

She informed that CSMCH along with other Centres at JNU was working on a project that investigateed different trajectories of urbanisation in South-West NCR. The project also examined the impact of rapid urbanisation on the health and well-being of different segments of urban population by studying their social, economic and environmental ecosystems.

Another project "Risk and Responses to Urban Futures: Integrating Peri-Urban/Urban Synergies into Urban Development Planning for Enhanced Eco-System Service Benefits" looked at the health and livelihood challenges posed by peri-urban areas. The project focused on changing identities of different groups in an area and how their living conditions constituted their identities.

*Sustainable Urban Futures: Gurgaon-Manesar Urban Complex – **Pranav N Desai***

Desai discussed the on-going collaborative project on Sustainable Urban Futures that focused on Gurgaon-Manesar Urban Complex. Four centres at JNU- Centre of Social Medicine and Community Health, Centre for Informal Sector and Labour Studies, Centre for the Studies of Regional Development and Centre for Studies in Science Policy are involved in the project. Desai emphasized that no study on development and urbanisation could be completed without engaging with the scenario of probable futures. In his view, the dominant projections of the future presented a linear, neo-liberal mode of growth acting in a crisis mode. That neglected the underlying socio-economic inequalities, resource scarcity and a vision of the sustainable development goals. This project engages with multiple scenarios of the future in the context of sustainable urbanisation. In this project, the scenarios will be based on hybrid knowledge platforms involving multiple people such as practitioners, activist, policy makers etc. The major focus of this project is knowledge production which could be used towards action and transformation. He emphasized that the role of proper governance structures and institutional responsibilities needed to be highlighted more and taken into account while imagining multiple scenarios of urban sustainability.

*Tooling-up: Digital Fabrications, Smart Urbanism and Grassroots Activism – **Adrian Smith***

Smith talked about the grassroots approaches in digital fabrication as a means to understand the sustainability challenges. In his presentation entitled "Tooling-up: Digital Fabrications, smart urbanism and Grassroots Activism", Smith presented notes from his ongoing case studies which presented a bottom-up approach to smart urbanism. He explained that with the increasing accessibility, versatility in digital design and manufacturing technologies, many user-friendly technologies are emerging. He highlighted that these emerging technologies claimed to be exploring more democratic process in designing and creating knowledge commons and knowledge democracy. Through the examples of 3D printer projects he emphasized the possibility of an emerging repair culture from the throw-away culture. Similarly initiatives like smart furniture, book scanner, low-cost housing, all

direct us towards a culture of sustainable urbanism emerging from grassroots communities of makers and fabricators working with minimalistic resources.

*Digital Grassroots and the Collective Production of data: Making cities think in terms of Sustainability and Inclusion – **Mariano Fressoli***

Fressoli in his presentation on "Digital Grassroots and Collective Production of Data: Making Cities think in Sustainability and Inclusion" talked about Fab-labs and makers' movement in Argentina. The group he studied dealt with building tools and building capabilities among users. Fressoli highlighted that there was collective production of data by involving NGOs and social activists. Most of the data was posted online for open access, which could be used by anyone. Sometimes the data posted online was even used by other organizations as a supporting document to demand action and accountability from the government or other agencies. However, very few organizations have been focusing on the issues of environment or sustainability yet. He questioned whether this was a new form of activism? Whether this was a smart city from the bottom-up perspective and to which extent that was possible? He raised many more questions regarding the ownership of data and the problematic correlation between data access and accountability.

*Constructing Pathways to Sustainability: Learning across Disciplines, Sectors, Regions and Cultures – **Anabel Marin***

Marin talked about the global consortium project of STEPS Centre, supported by ISSC, Paris. He informed that the new consortium project was built upon the existing projects of STEPS on sustainability. In the first stage, focus of the project would be on three general problems: urban water and waste, low carbon energy transitions, and sustainable agriculture and food systems. More specifically, the project tries to advance in the direction of (1) experiments in processes of research and engagement through Transformation labs or T-labs for the development of social innovation (2) learning as much as possible from the differences across the different contexts where the project was being implemented. The consortium involves STEPS, UK, hubs in Latin America, Arizona, India, and Africa. The project will look into a pair of hubs which address similar issues in their regions by applying similar methodology. For example, The Latin American hub and UK hub will be dealing with pathways on food, South Asia and Arizona hubs will look into the pathways on water, and China and Kenya hubs will look into the pathways to low carbon transitions. The different hubs approach similar sustainability problems and this will help to understand how T-labs

will work in different contexts. By taking the case of Latin America and UK, Marin explained how adopting aligned and non-aligned strategies of engaging with the knowledge partners helped in the enhancing the understanding of the problem and ways to address it. She also pointed out that we could learn more from drawing comparisons from the T-labs and co-design workshops in different hubs and try to develop alternative pathways to address sustainability.

*Urban Growth, Social Ecological Transformations and Sustainability in India – **Milap Punia***

Punia from the Centre for Studies in Regional Development, JNU, highlighted that process of urbanisation has been understood as something of an inevitable phenomena. He stressed that more focus has been on the urban areas that constitute only 31% of the total population. He put forward that with increasing chaotic urbanisation there was a need to engage with physical and social factors in order to understand different dimensions of sustainability. It was crucial to look into the disparities within the state, between states, between regions, among cities and between formal and the informal in the urbanisation process in his view. He explained that as a physical and social factor, water played an important role in the evolution of the cities. He shared that in the city of Jaipur, ground water had been depleted by the demands and pressures of increasing urban population as a result of industrialization and migration. On the one hand, there was an agrarian crisis in the hinterland and at the same time the demand for the water was increasing. Jaipur has also been selected among the 21 smart cities. He pointed out that as a result of the urbanisation processes surrounding Jaipur, the agricultural area had been brought in built-up area in the past 10-12 years. However, the benefits have not trickled down for the poor and the marginalized population in the peri-urban and urban areas. This situation got intensified by multiple institutional failures due to poor governance. He concluded with the questions of possible alternatives in the form of technological choices and institutional solutions which could be effective in the case presented above.

*Does Ngo-isation of Slum Sanitation lead to Depoliticisation?: Slum Sanitation Programs in a Mumbai Slum – **Pradeep Shinde***

Shinde, through his presentation on "Does NGO-isation of Slum Sanitation lead to Depoliticisation? Slum Sanitation Programme in Mumbai Slum" highlighted the ground realities and implementation challenges of government programmes on sanitation and waste management in urban slums. The BMC model relied on devolution of the centralized model

of municipalities in order to create self-sustaining slums for waste management where community members were asked to organize and clean their own area. This model created a distinction between slum areas and other middle class localities where BMC workers were assigned to clean and manage waste. The decentralized model was not helpful for slums because along with decentralization they were also asked to generate their own funds and resources to sustain their waste management programmes. In conclusion, Shinde raised the pertinent question about the co-option of these institutions by democratic models of functioning and governance or co-option of democratic models of functioning and governance by these institutions.

Discussion

Amita Bhide questioned the definition and understanding of sustainability in projects such as people's vision of the city, where there was multi-level and multi-regional engagement. She asked if there was a cross-cutting definition of sustainability. She shared her experiences of experimenting with local forms of knowledge and generating knowledge from below and trying to link that with knowledge that is available in a top-down manner and discussed that the biggest challenge was to find a way in which both the approaches talked to each other and share a dialogic space. She questioned if the cases presented had also looked at these issues. **Diwan Singh** questioned the sustainability of cities in relation to their peri-urban and rural counterparts, in terms of their consumption, and resource exploitation footprints. In this context, the idea of sustainable urbanisation looked like an oxymoron, added **Brian Wynne**. The question that emerged was that do we treat the drivers of urbanisation as inevitable or do we consider other alternatives.

Saurabh Arora shared his reservations about the usefulness of top down-bottom up and other vertical binaries for the categorization of the world. He asks if there was a way to move away from these categories to avoid the over demonization of the top and over romanticisation of the bottom. To this **Anil Bhattarai**, responded by proposing to through away the vertical differentiations and assume a differential power dispersed in a horizontal plain. **Sunalini Kumar** added to this discussion on vertical categories by suggesting that it was crucial to look at history in order to see how these categories were bearers of discursive power and get re-conceptualised, re-tooled, re-constructed and carried forward. For this, she suggested that it was important to look at the questions of what was inevitable in urbanisation, where it was presented as 'inevitable' and why? **K T Ravindran** related to the debate of dichotomies of top and bottom by talking about start-up businesses and tried to

explain how they dismembered these categories imbued with power. By being positioned at the periphery and working with a bottom-up approach, at the same time, being funded by big multinationals and sometimes connecting research and development nodes for them, the start-ups transgressed the boundaries of power and re-defined it in a new way. In relation to Adrian Smith and Mariano Fressoli's cases of maker spaces, **Ravindran** cautioned for a separation of production of these knowledge networks from their grassroots activism as they might be connected to different nodes of power.

Vanita Ahuja asked to incorporate the issues of maintenance, repair and governance of existing infrastructures as a parameter to think and discuss about sustainability in the context of urbanisation. She suggested that a public report card to provide feedback to the governance mechanism could be a helpful way to assure the incorporation of these issues in the mandate of sustainable urbanisation.

Archana Prasad in her concluding remarks on this session highlighted that defining sustainability from the economic, social and ecological perspective was very important. She further added that there could be no sustainability without social equity. Issues like informality etc. needed to be especially focused upon. Prasad stressed that there was a lot of resistance against the present socio-economic model. The small sustainable alternatives were imbedded in organised resistances that need documenting. Apart from this, the hub should also focus on alliance building, networking and outreach programmes. She highlighted that sustainable urban future cannot be isolated from the rural future. The peri-urban area should not simply be seen as area around urban centres. She emphasised the need of a more proactive approach, going beyond the 'projects only' approach for sustainability of sustainability studies.

4. *Session 2:* Urban Sustainability: Perspectives and Approaches

Gitam Tiwari chaired and introduced the session including many eminent personalities.

*Economy, Society, Environment: Pillars of Sustainable Cities or Horns of an Urban Trilemma – **Gordon Mc Granahan***

The first speaker for this session was **Gordon McGranahan** from IDS, University of Sussex. His presentation titled "*Economy, Society, Environment: Pillars of Sustainable Cities or Horns of an Urban Trilemma?*" presented sustainable cities as resting on three pillars like sustainable development: the economy, society and the environment. He argued that each pillar can be built independently and may even be inherently supportive of the others. These

pillars could be rather seen as three horns of an 'urban trilemma' in his opinion. Although he felt that land was just one entity, but it could be understood from different angles as well in his opinion. Land could be looked at when it is part of an urban land issue, from an economic lens, exchange values, or from a social perspective, an environmental lens, it can also be understood as the value of ecosystem services.

When cities were considered as growth machines, they should be following an inclusive approach while keeping its carrying capacity in mind, he felt. The economics of cities should include labour pool resources, sharing with private agencies, learning from other communities and enterprises and so on. However, the politics of growth may be very different from by-products of sharing and learning.

According to him, urban growth coalitions tended to undermine the pursuit of social and environmental goals, even as they claimed to represent the long-term public interest. The coalitions formed in the name of social or environmental goals could also be sidelined, even if they united in their challenging of narrowly formed economic agendas and the excesses of neo-liberalism. The notion of eco-cities is generally very exclusionary and does not consider the social aspect. In this context, the idea of 'rebel cities' was conceived as cities represented by oppressed classes based on national as well as local city politics. Finally, he concluded that to reduce the trade-offs, the three goals must be pursued together rather than separately.

*Risks and Responses to Urban Environmental Change – **Ravi Agarwal***

Agarwal from Toxics Link presented his views on *"Risks and Responses to Urban Environment Change"* and shared his reflection of their engagements with city, the urban environment and issues related to it. He pointed towards present situations of Indian cities and problems related to them and emphasized that urbanisation was leading to increasing incomes, increased demand and impacting natural resources and causing bigger ecological footprints. This is in turn was leading to degradation and depletion of quality of all natural resources.

In this scenario, city planning models were struggling under huge stress. He found that the issue of inequity is relatively less addressed, even though it is discussed in the planning and the urbanisation process. It is crucial to analyse the unequal distribution and access of resources, technology and market-based solutions, which do not benefit the rich and poor alike. Moreover, he felt that as the cities were expanding, degraded areas were being reclaimed for rapid urbanisation, removing marginalized people. He also observed that there was a continuous economic and social exchange between the formal and informal sector, but

their continuum was not recognized well.

This was not to say that technology and market-based solutions were not important, but these do not seem to have the same impact on everyone and have differential benefits for different categories of people. He further said that there existed a dichotomy between what a system 'should do' and what they are 'able to do', as these systems of urban cities were underperforming and were under-funded. He commented that of the many proposals made to city governments that anyway lack the capability to evaluate them properly, more often than not, they end up making poor choices about city planning. Governance models usually follow a top-down approach, rather than a bottom-up method, thus excluding the common citizens in decision-making. He questioned whether the Public-Private-Partnership (PPP) models in governance were actually sub-contracts or partnerships, where public was actually non-existent.

Through his study, he had found that PPP models entailed sub-contracting to other private partners, as the models didn't change the governance mechanisms and financing. In his view, environmental regulators lacked power and independence, even though greater power has been envisaged to environmental regulators under the Environmental Protection Act. He added that environmental concerns were not included into the city planning as environmental clearances were not given easily. If these concerns were not considered seriously then the understanding of sustainability would be incomplete, he emphasised.

Large-scale intervention in rural areas was seen as very important as most of the resources being used in urban areas came from rural settings: transportation, health, livelihoodand water etc.. He was convinced that issues pertaining to all these aspects emerged due to lack of integration of environmental concerns into city planning. He concluded by saying that there was a need to strengthen and democratize governance, incorporate appropriate technologies, better access and distribution of services and give due recognition to the eco-system services of land.

*Urban Landscapes in the Future: Insatiability or Sustainability – **Romi Khosla***

Khosla started his presentation titled *"Urban Landscapes in Futures: Insatiability or Sustainability"* with a question about building a future while keeping India's historical conditions in mind? He elaborated that there was a tendency to make decisions without giving due consideration to the historical backdrop of India. This could be understood by critical analysis of Adam Smith's model of Capital Accumulation, which justifies state or private party to remove surplus from producing people. That amount of surplus is essentially

responsible for not enabling them to be sustainable and thus to be dependent.

He gave a comparison of accumulation of wealth of individuals for five years, which showed that in 2015, 62 people owned the same wealth as 50 per cent of the world. He referred to two documents i.e. McKinsey's report 2010 titled 'India's urban awakening: Building inclusive cities, sustaining economic growth' and the 'World Development Report: Reshaping economic geography', to compare the above figures, with the nature of urbanisation and showcased the co-relation between separation of poor from cultural and economic life of a nation and the pace at which urbanisation was occurring.

Since 1900's, only 1 per cent of the global wealth catered to the poor, which is nearly 50 per cent of the world's population and 50 per cent of the wealth was going towards 1 per cent of the population. In the Indian context, he analysed the policy documents to reflect on the causes of such skewed accumulation of wealth.

He said that due to global recession, India was one of the desirable destinations for investment, which was advertised in the policy documents. This was one cause of unsustainable urbanisation that the government promotes He explained this by taking example of various industrial corridors like the DMIC, AKIC, BMEC, CBIC, VCIC etc. Emphasis was given to Delhi-Mumbai-Industrial-Corridor (DMIC) that projected doubling of employment, tripling industrial output and quadrupling exports from the regions in five years. He worked on its environmental impact, especially in context to water in the DMIC area. It was found that with the increase in density of population in that region, ground water quality degraded.

He suggested that India should not have mega-urban centers as that would aggravate problems of poverty. Decentralization, according to him, should become the top-priority for it to become sustainable. Suggestions were made to intensify urban agriculture, as it was seen as an essential component of natural cities. He also dwelled upon his future work entailing layout plans for designing natural cities in terms of sustainable utilization of water, air and other environmental resources, thereby advocating the idea that 'what we take from nature and has to be given back to nature'. Finally, he concluded by sharing a map showing poverty density of India to the participants to mull over.

Affluence or Poverty? - A new look at 'Development' – **Dunu Roy**

Roy from Hazards Centre presented on the theme *"Affluence or Poverty: What constructs a 'Sustainable City'?"* He began by questioning the social construct of a city by examining cities historically. In 1790's, the great city emerged out of the 18th century

revolution, when masses migrated into town to sustain industries, but cities failed to do justice to workers' wellbeing and they were made to settle within back alleys with low wages and long hours of work, which gave rise to slums. He showed some of these transitions in Indian planning by comparing city planning of 1950's and 2015 using their respective planning documents. He questioned the idea of sustainability by asking a key question: 'who is sustaining whom?'

The idea of growth, implicit in designs of cities, was related to how growth was being perceived in his view. As per the government's perception, urbanisation would lead to economic growth and changes in labour laws would encourage these visions. He posed questions like *whether our cities were sustainable engines for growth, or engines of exploitation?* He further evoked a sense of curiosity by bringing in aspects of *unsustainability, inequality and exclusion of labour.*

He showed that for being sustainable, we had to emit less than 2.5 tons CO_2/per capita. He informed that India was below average because large sections of the Indian population did not get much to consume therefore reduction in the emissions was evident.

As his concluding remarks, he gave his audience some questions to think over like: *whether values were reclaimed by working poor, would they be able to make a city of their own? If they were able to reclaim money spent in corrupt practices, would we get a better city? Would it challenge the nature of appropriation and exploitation which modern cities are considered as institutions of? Would they be able to devalue the violence of domination?*

*Synergizing the Nature of Urbanization and Urban Policies in India; An Approach of Sustainability – **Ram Babu Bhagat***

Bhagat from the International Institute of Population Science presented on the theme *"Synergizing the nature of India's urbanisation and urban policies: An approach of sustainability".* He initiated the discussion, by making a clear demarcation of cities and urbanisation i.e. cities were a form while urbanisation was a historical process. In India, low-level of urbanisation (31 per cent as per 2011 Census) had been witnessed. Although India was predominantly a rural country, the urban was growing at 2.7 per cent and the rural is growing at 1.1 per cent he informed. He questioned how the urbanisation process could help the rural areas? Through his study, he found that in-situ urbanisation was very rampant and there was a lack of basic amenities in urban areas due to its top-down, centralised and metro-centric urban policy and programmes. He showed that urbanisation was increasing since the last decade, due to convergence of villages into towns. At the regional level, he indicated

distinct regional disparities, which correlated with economic development. Increase in population was not due to migration but through graduation, which has led to the emergence of 53.1 million cities. Basic amenities in these area, were still scarce and minimal.

Towards the end of his presentation, he discussed about the urban development policies present in India. Urban development is a state subject but there was a lack of integrated urban development strategy at the state level. He gave the example of Uttar Pradesh as it is the biggest state, however failing to envision connecting million plus cities, as development there was not seen from a spatial perspective. The entire planning process lacked a holistic and integrated vision of a city at the state level in his opinion. Further, he felt that there was an absence of democratic and decentralized governance, ill-formulated fiscal and political empowerment and dominance of bodies like the urban development authority. He questioned the kind of cities we aspired to build and whether those cities would become centres of wealth creation and accumulation by a few individuals. He concluded his presentation with quote by Harvey: "*the lack of freedom to make and remake our cities and ourselves is one of the most precious yet most neglected of our human rights.*"

*The MEGADAPT approach to addressing social-hydrological risk in Mexico City – **Hallie Eakin***

Eakin talked about the MEGADAPT project by the North American hub. It is built on a framework for addressing water vulnerability and risk in Mexico City. Flooding has always been a challenge in Mexico City he informed. It had a water scarcity, water access and inequity in water distribution as major problems. About 14.39 per cent of the city population had no access to water he shared. She also talked about Mexico City as a surviving and resilient city. The inhabitants learnt to capture water in many ways, but it was high on cost. In this context, the project aimed to evaluate the vulnerability of the city in a more comprehensive way, to capture the dynamics of the city as a complex adaptive social ecological system, to evaluate the interaction of hydro-climatic factors with actions at diverse scales, or in short, understanding vulnerability as a social construct. The idea was to create a tool, or a boundary object, which support reconceptualization of city and risk. Central point of the project was that internal representations of reality shape the actions of the stakeholders and people. How the different actors viewed the problems and how it reflected in the formulations of the actions to solve issues. The project MEGADAPT was envisaged to explore this.

Discussion

Discussions involved a diverse range of questions that were asked, especially pertaining to how natural cities could be realised, discourses related to river-front cities, how politics of technology could be reflected upon in the larger ambit of sustainability. There were questions related to livability in tier-II cities and their human development indices, which are considered as crucial aspects of urbanisation. The questions also focused on how different power systems were going to be incorporated into the project. Hallie pointed out that part of the challenge was to make it visible as the complexities of power relations were invisible now. Anabel shared her view that different power relations could be observed by adopting the non-aligned strategy, by putting different stakeholders onto the same table for discussion.

5. *Session 3:* Working group formation: Developing Future Research Agenda – What is to be done?

*Growth and Urban Sustainability – **Atul Sood***

Sood is an economist. In his presentation titled "Growth and Urban Sustainability," he discussed three themes under the broad heading of 'building sustainable pathways' : (a) Urbanisation as chaos or culprit (b) Corporate, technocrat and way of looking at urban growth (c) Growth and sustainability via politics of sustainability. He emphasised that we needed to think more about growth than sustainability, examine the connection between growth and sustainability and explore new pathways. Being a trained economist, he mentioned two critical issues namely that the existing economic and social model were not enough to address the issues of economic and social justice and second thatfocus on the specificities of the discourse.

He explained how the nature of politics had ensured that liberalisation, a potentially contentious process, had been on the agenda, This framing of the agenda revolved around three issues i.e. land, labour and centre-state relationship. These were the three pivots around which dynamics of accumulation took place, he said. He pointed out how agrarianism got completely hidden in the larger dynamics of growth, crisis of urbanisation and crisis of the paradigm of growth.

Discussants

Shravan K Acharya reflected upon the presentation and highlighted certain issues about the contradictions of funding and also discussed that how discourse of development was oriented towards and designed by the politicians, how there were conflicts between groups of people which he pointed to be most important sustainable development issue and other issues that might come up due to rapid urbanisation. He also spoke of the nationalist paradigm when a new government came to govern in the urban set-up.

Sunalini Kumar talked about chaotic urbanisation, role of government as a part of the agenda which needed to send investments to small towns. She discussed about the need to look into political scaffolding and also about population outburst as a 'looming crisis'.

Environment, Health and Sustainable Cities: What next for the Nexus? - ***Ritu Priya, Fiona Marshal, Ramila Bisht** and **Pritpal Randhawa***

In her presentation entitled "Environment, health and sustainable cities: what next for nexus?", **Ritu Priya** discussed about the processes to see how sustainable solutions of the marginalised can be given due consideration in policy making. She spoke of the need to create diverse imaginations of 'sustainable urban areas' for immediate and long term interventions in designing of sustainable urban systems. She mentioned certain specificities about South-Asia's context and its planned and organic urbanisation. In this whole process she identified the relatively low degree of urbanisation in the region, the intersection of the rural and urban, and the interdependence of the formal and informal to be critical. She illustrated issues with current concepts commonly in use in the present international and national sustainability discourse, such as dense high rise vs. urban sprawl and peri-urban/urban agriculture in land use designing; the circular economy and waste to energy vs. natural recycling of waste. Speaking of the need to intervene in the discourse, she pointed out that the Water-Energy-Food Nexus needs to be expanded to include linkages to waste, land use and livelihoods - with environmental and human health and wellbeing being viewed as the outcomes Ritu Priya highlighted the institutions of knowledge validation as being key to legitimisation of dominant approaches to development. The centralisation of resources and decision making was vital for the colonial government, the welfare state and the bureaucratic techno-managerial approaches and these had led to adoption of international models and standards that suited the economics and culture of the better off at the cost of the majority, while viewing it as scientific and objective knowledge that informed formal development.

This dualism between the formal and informal configures the various ways in which sustainable solutions are being sought, either for building new cities or restructuring of existing urban areas, and is reflected in 'Smart corporate urban development' vs. 'Sustainable regional development', she said, thereby setting the agenda for inclusive and participatory knowledge generation through alliance building.

Discussants

Dipak Gyawali reflected upon current urbanisation as a process of 'madness', for which he claimed three basic drivers- land mafia, urbanisation policies and rural outmigration. He mentioned the idea of *Desakota* where rural and urban coexisted and its importance towards sustainability goals. He argued about the nexus of water-energy-food where the focal point was not around the production end. He discussed the issues that come from storage and transportation and disposal of waste.

*Social Mobilization and Sustainable Urban Transformation - **Dinesh Abrol, Pravin Kushwaha, Prathibha G, Vikas Bajpai** and **Pradeep Shinde***

Abrol discussed the conceptualization of Working Group 3 i.e. sustainable urban transformation and social mobilization. He briefly outlined the key points of the background paper on this theme. The background paper discussed the context, objectives and scope of WG3. The background paper recognized that understanding the sources of reproduction of un-sustainability (from the standpoint of the urban poor) was inevitable to explore the possibilities of transformative changes. Social mobilization through co-transformation and co-design and alternative pathways were suggested for consideration to improve the status of urban sustainability. He also pointed out that 'co-transformation and co-design needed to be consciously planned with the empowerment of the poor as one of the most important outcome and the constitution of alternative pathways to urban sustainability would have to be the target of social mobilization processes.

However, the choice of the social mobilization framings and strategies played a critical role in determining these outcomes he felt. Such strategies could be built upon the generated knowledge from the earlier experiences of social movements. The WG3 has tried to bring in some of those who have experiences of undertaking social mobilization on the issues of urban sustainability in different parts of India. These experiences and outcomes from these interventions need to be documented for assessment and knowledge repository needs to be set up for the documentation of grey literature he said. To start the activities, the

focus areas would be: contribution of agro-ecology to urban sustainability, housing and urban settlement etc. and more focal areas could be identified through network development for research and action. Collaborative establishment of city labs at select sites could be considered for continuous upgrading of social movements. The paper summed up by highlighting the need for collaborative efforts to develop the future agenda of urban sustainability i.e. knowledge production, encounter with policy makers, influencing the government and sustainable urban transformation.

Discussants

Dunu Roy and **Amita Bhinde** were the discussants for this presentation. Dunu said that there were some terms and points which needed to be discussed further, debated and clarified. He pointed out that the knowledge generated should be comprehensive in terms of for whom the generated knowledge was meant for and the language should be taken care of. Amita Bhide pointed out that one needed to look at the scale at which social mobilizations took place.

6. *Session 4, 5, 6 and 7:* Working group Activities and Discussions (Parallel sessions)

Working Group I
Environment, Health and Sustainable Cities: What next for the Nexus?
Coordinators
Ritu Priya, Fiona Marshall, Ramila Bisht and Pritpal Randhawa

The aim of the working group 1 was to build on existing research and policy work to intervene in the sustainability discourse and contribute to advances in systems and technology development that is grounded in local contexts, decentralized and participatory processes, and to relate the informal structures to the formal structures and mechanisms.

Presentations on three dimensions related to the work group theme— the Bus Rapid Transport pilot in Delhi, the impact of Green Revolution on urban Punjab and official responses to it, and institutional responses to occupational and environmental health in India— initiated the discussion through concrete illustration of issues from research and practice experience of three leading experts in each area. The discussion was structured around four questions that were circulated in advance and provided a common thread. The

subsequent discussion was a rich sharing by all participants and also led to specific outcomes that involve a broader academic agenda to be taken forward. A flavour of the presentations and discussion is given below as answers to the four questions.

i) How have mainstream interventions caused unexpected environment, health and exclusionary outcomes, and what can be learnt from them?

Geetam Tiwari presented on how the BRT, despite being preferred by most people, having improved pedestrian experiences, cyclists experiences, bus driver's experience as well as those who use buses, has been scrapped. The question that followed from this was: who are the citizens whose voices get heard, when only 15% of the population in Delhi own cars? While surveys and data indicate that most people benefit from the BRT, the media reports show otherwise. At the policy level, several attempts were seen to scrap the BRT and preserve it only in areas where there was hardly any traffic congestion, rendering the intervention useless.

From the surveys and studies done by them on metro construction, it was revealed that the metro construction involved massive displacement of people who eventually weren't even able to use the metro. Surveys show that metros are used mostly for long-distance travel, which constitutes a very small percentage of people's commuting needs. Most people come to the city to fulfil their employment needs and short-distance transport is not taken into account in city transport planning. Walking, bicycling, and bus transport seem to be given low-priority in city planning. Low-income people cannot afford to use the metro on a regular basis and yet it is portrayed as a positive thing for the city.

It was revealed from the research they did that the question of transport in a city cannot be seen in isolation. It is strongly linked to employment and livelihood practices. This also exposed the gap between self-planned and expert planned cities. While the former seems to reflect how people actually live and navigate the city, the latter seems to exclude the same.

T K Joshi traced the neglect of environmental health/waste management in India. He gave an instance of how the issue of safe disposal of mercury from thermometers, etc. was brought up as a major environmental waste issue, as well as hazardous to the health workers but was surprisingly opposed by the physicians initially. This also revealed how different groups respond to/take up issues differently.

He gave examples from his own research and practice on how any responsibility is completely shirked off by industrialists on risks and hazards inflicted at the work place due to the nature of the industry or work conditions. The category of 'occupational hazards' was

completely ignored in several domains for a long time. The issue may be taken up by some department when there is funding, but otherwise neglected and one found issues passed around from ministry to ministry, unaddressed.

Rajesh Kumar: He began by giving an account of some of the consequences of a mainstream intervention, the Green revolution in Punjab, a government measure to seemingly increase food production and tackle malnutrition. It led to decrease in water-levels, which then meant that people were digging deeper for water, below heavy rocks which exposed them to arsenic/uranium content leading to cancer. Heavy pesticide use, also a product of the green revolution has led to increase in cancer cases. The government's response to this was to hush the matter down or only provide token-based compensation for cancer, shifting the focus away from the larger problem.

Mechanization of agriculture, another consequence of the green revolution also meant massive unemployment, leading to the problem of 'surplus unemployed youth'. This is directly related to an increase in drug consumption by these youth. Seen as a political threat, one saw a similar silencing of the issue in the form of government measures: a one off detoxification and rehabilitation programme which did not even touch upon the gravity of the problem at the surface level, and then a declaration of a 'drug-free' Punjab which only meant brushing things under the carpet. Now it's not easy to speak about the drug problem without surveillance.

He also talked about another important issue with respect to urban and health planning how the city thrives on the labour of the migrants but their health conditions are largely ignored by urban and health planning. The inter-linkages between their health issues and the health conditions 'for-all' are ignored. This can be seen in the form of displacement and pushing them out to the margins of the city instead of addressing the root cause of the problem. They are often stigmatized and blamed for the spread of diseases, when in fact their work and living conditions which may be the actual cause of their health problems, may be ignored or furthered by bad planning.

ii) What can we learn from the informal/hidden nexus interactions (and citizen led initiatives with positive nexus interactions) about transformations to sustainability?

TK Joshi: It was through concern over issues of worker's health that mobilized voices on the same, as well as legal action which then drew attention to the category of 'Occupational Health' in India. Occupational Health was largely ignored earlier. Now one finds a unit of

occupational health included under all ministries. This is a reflection of how people's initiatives led to a change in governance structures.

In his presentation he also shared how awareness created on the issue of mercury-related health hazards from thermometers led to a mercury-free Delhi and introduction of Sharp boxes were positive examples of people's interventions in transformations to sustainability.

Priyanie Amerasinghe: In a district in Telangana, the role of research and media provides an interesting example of the extent of social impact that the two can have. The effects of effluents released from a pharmaceutical company intensive village were exposed by media reports and journal articles. This created a huge row and also mobilized a lot of attention which led to the establishment of a common effluents treatment plant.

iii) What sort of transformative action is required to enable more productive partnerships/alliances- particularly between the formal and informal processes – to address environment, health and exclusionary outcomes? (e.g. urban governance and institutional arrangements, alliance building)

Discussion on Data Needs

- **Satish Sinha** (Toxics Link): One of the main problems that one encounters in engaging with any policy advocacy is the lack of data. The data is quite dispersed so there is a need for collating this dispersed data that may be accessible to different sources (example the case of 'Lead' in the shipping industry and the paints industry). It has been difficult to produce data on related impacts of industry as beyond a point the data is not made accessible by these companies/industries

- (Person working on E-waste): One can see how data is used and produced to support contrary perspectives. It is then important to understand what mechanisms can look at knowledge appraisals and how the validity of contending data can be determined.

- **Mariano Fressoli:** Data produced through methods which allow people to participate, not necessarily replying on a specialized group of scientists can also lead to democratization of data. By spreading the process of data generation, one is also simultaneously able to empower people to reflect on and show what is going on in the community. Today, there are several open source tools for allowing this to happen.

- **Geetam Tiwari**: Provided an instance of a high court judgement on BRT when the Central Road Research Institute gave evidence for their case against the BRT backed

by only three instances as opposed to a much more extensive survey, the data for which was publicly accessible. The High Court judgement was finally in favour of the BRT.

She also iluustrated research generated can support short-term policy goals which may eventually be in conflict with long-term policy advocacy if one's aim is sustainability. Complex systems do not have a linear model. If one is to avoid such conflict between short-term and long-term impacts of strategies, alliances across disciplines are important and knowledge sharing across disciplines would allow for this gap to be bridged (For instance, new research showed that CNG produces micro-particles that are even more harmful)

- **Rajesh Kumar:** A recent Green Tribunal order expects research for policy intervention from the government itself instead of accepting them from academic institutes or universities. Industries also employ scientists to collect their own data and this brings up the question of independent academic research intervention.

- **T.K. Joshi:** Also, voices of the poor are not recognized or addressed as they are in a vulnerable position so they need support from NGOs and activists. An example of such a coalition was action taken against Silicosis.

- More than one participant pointed out the need for people to come together and the political will or push that this generates which provides a source of relevance to data instead of only looking for objective validation to the data. This was especially seen as important because often research may point out conclusions that may go against those in power. For such research to stand any chance of visibility in the public realm, a stronger support from communities who are directly implicated in the research, people's movements, and citizen action groups was seen as important.

Discussion on the Role of Media

The media was viewed as an important channel for issues, while also recognising the need for caution in how it tends to represent them. Sensitising it to the complexities of sustainable development was identified as an important agenda.

- **Satish Sinha:** If one needs to do public advocacy, one needs to bring out the data to make the people's point. The WHO report is an instance of how the tables were turned regarding pollution policy and it became a point of reference for everyone to talk about.

- Milap Punia made a related point later on how research backed by media's foregrounding can highlight important issues.
- **Geetam Tiwari:** Delhi being polluted is not a recent phenomenon and we must also be mindful about when and how things come into the limelight. Why is it that certain things don't get spoken about?
- **Fiona Marshall:** Shared an instance of how a study on peri-urban agriculture and environmental contamination was reported in the media that heavily backfired when the research conclusions were used to displace the very community the research wished to empower. This pointed to the need for understanding and engaging with the media in a way to further their understand ing of the nexus interactions of environmental, social and economic dimensions.

    This involves several levels at which alliances need to be understood and built. For instance, examining where local government initiatives could play an important role, keeping in mind the coping strategies of marginalized communities and ensuring that the former encourage the latter, one could then further bring in the role of civil society groups and then also the role of the media taking all of these into account.
- **Hailie Eakin:** She cited an example from the US where the journalists were trained on the portrayal of issues of climate change as it was felt that it leaned towards sensationalism.
- **T K Joshi:** Shared an example where a morning show on All India Radio was interested in broadcasting very relevant issues emerging from research, which reflected the interest of people and also avenues in mainstream media that were interested in engaging on such topics.

iv) *What are the priorities for a forward looking and policy engaged research agenda?*

Discussion
- **Satish Sinha:** The need for collation of data from different sources if it is to for a strong case for public advocacy.
- (From the point made by person working on E-waste): Establish mechanisms to look at social appraisal of knowledge or data.
- **Mariano Fressoli:** Social scientists and scientists can work on building mechanisms that allow for participatory data generation by people who at present are excluded

from such a process. This is possible today with a lot of revolutions taking place in information technology.

- **Priyanie Amerasinghe:** GIS mapping techniques can make a lot of things visible like slums that aren't notified. These techniques should be used in more creative ways in research.

- **Geetam Tiwari:** It is important to create research platforms where the sharing and exchange of knowledge across disciplines and between different expertise is done. This would help bridge the gap between short-term and long-term policy advocacy where a more holistic approach taken through a wider understanding of an issue is addressed.

- **Aviram Sharma:** Instead of an emphasis on the 'objectivity' of facts in research, people's own lived experiences should come through and the relevance of issues need to be determined, which involves a choice or a stance that one takes. It also means taking up on issues on which people mobilize.

- **Ritu Priya:** The expression of mobilization on a certain issues itself involves years of earlier work gone into it and shouldn't be seen as a one off event but as a rich source for understanding issues from the affected people's persepctive.

- **Fiona Marshall:** While lived experiences are precisely what should come out through research, the attempt could be to understand them in relation to or how they interact with the different levels at which these nexus interactions take place, for any concrete interventions to materialize. For instance, local government initiatives, the role of civil society groups etc.

- **Milap Punia:** One needs to develop stronger critical counter studies that are able to refute studies which have exclusionary implications.

- **Vijay Pratap:** If it is possible to compile certain Dos and Don'ts of sustainability then this should clearly influence the processes that are aimed towards sustainability.
  The other problem that needs to be addressed is the gap between 'global citizens' like us and how one relates to the 'vernacular', for who they seem to speak for. There is a need to create a social capital among the latter so that leadership is generated among them to take up these issues with a stronger force and also find a common ground between the issues of these two groups.
  The need for research to respond more quickly to political concerns; concerns should also focus on livelihood issues and the emphasis on urban sustainability should be

more clearly articulated.

There is a need to find inter-linkages between sustainable goals and targets.

- **Rajesh Kumar:** It is important to address 'the root causes' in research instead of focusing on symptomatic relief as the aim in mind.

- **Pritpal Randhawa:** Recently alternative social media platforms have helped bridge the gap between research and transformative action. There are existing ones, but there isn't an existing one on the issue of environmental health. We can start a blog that can have two parts, one can aim to be a knowledge repository on Environmental Health and the other can have more general issues and can be an open platform.

- **Ritu Priya:** We can begin by putting all our work and discussion brought up today in the form of articles. We can think about what we would like to contribute for a volume that can aim to bring out these interlinkages discussed today.

Working Group II
Growth and Urban Sustainability

Coordinator
Atul Sood

Atul Sood initiated a discussion by giving a broader outline of the objectives and goals of the group. He suggested that for systematic outcomes, the group might plan to produce four papers in next 6-8 months, which would include both position papers as well as empirical studies. He further added that during the course of discussion, it would be appreciated to identify common themes and approaches, based upon which future collaborations could be built. It was suggested to involve students working on similar themes. He also indicated that previous works could also be incorporated. However the strength of the group would depend on collective resources he emphasised. The group agreed to proceed with individual presentations followed by discussions.

Sucharita Sen from the Centre for Studies in Regional Development made a presentation on the backdrop, potential content and implications of the theme of the group, Growth and Urban Sustainability. Taking on from the idea of the World Development Report 2009, entitled Reshaping Economic Geography, she argued that the larger neo-liberal prescriptions that revolves under a model of urban-centric growth, discounts the perils of regional inequalities resulting from the model, which revolves around large cities. India has a very sharp rural-urban divide and this imbalance is more significant for India, as compared to

other developing countries, she informed. She also highlighted that investment in agriculture was consistently decreasing subsequently leading to the decrease in agricultural productivity. She argued that the current policy environment is marked with a centrality of growth, that sacrifices distribution, and a change in the role of the government, that makes it corporate-oriented, attempting to promote the 'ease of doing business' giving up its welfare centric objectives. She raised an important question as to whether fair distribution was something that was done automatically highlighting the significance of institutions in the urban planning and processes. The speaker raised doubts regarding the character of the free market and threw light on the ambiguities of the service sector-led growth. She explained that the service sector-led growth was highly imbalanced between employment and contribution to GDP. On the other hand, even though employment in agriculture was much higher as compared to the service sector, still the capital expenditure within agriculture had consistently declined. According to Sen, the existing economic social model in India was not going to solve problems, and one needed to flag out macro issues that included shifts in India's growth strategy, institutional mechanisms, budgetary allocations and urban-rural continuum.

She also highlighted issues related to the peri-urban spaces. She stated that establishing relation between land, labour and environment was very important. There were issues related to land transfer, land acquisition, occupation, social impacts, migrant workers, distribution of environmental resources and service, etc., and each one of them needed to be reconceptualised for urban sustainability studies. She compared the modern cities with neo-liberal cities. She urged that neo liberal cities should be examined from the vantage point of right to basic services, by citing the example of the status of rights of the labourers living on the periphery for sanitation and water. She compared this process of exclusionary urbanisation with the idea of 'socialising the cost and privatising the benefits'. She emphasized that the group could collate field-based experiences and secondary data for having a holistic understanding of urban sustainability studies.

The issues pertaining to city-periphery were also brought up by **Abdul Shaban** from the Tata Institute of Social Sciences. He threw light on the demarcation between city and periphery in the existing literature that dwelled on the issue of labour displacement. He added that the periphery was not only created by capital, but also by the people who were displaced from the city. He said that the aligning social movements later became a part of development discourse, but failed miserably. There has been a transformation of fragmented urban spaces into communal spaces he felt.

Through his presentation on "Neo-liberal Cities: Splintering Spaces and Dualistic

Development", Shaban reflected on the programmes like JNNURM, as market-oriented reforms. He pointed out that policy making without consultations with stakeholders created loopholes in the planning process. He also highlighted that while discussing the contemporary form of urbanism, it was significant to understand global and local linkages and also consider urbanisation due to privatisation. He further elaborated about the production of spaces and focused on the importance of nature of social or cultural spaces that got created, organised and contested. He stated that post 1980s market was mobilised in the name of religion, which lead to urban growth based on a culture of violence. Re-asserting the significance of the implications of city-periphery, he suggested exploring the aspects of growth of urban population in and around mega cities. According to him, the periphery provided evidence of the failure of the trickle down economy at the centre, leading to the emergence of a new form of economy. Shaban highlighted the need of reworking of the neo-classical theory to understand emerging realities. He also pointed out that there were different discursive discourses coming from different sections that included policy makers, planners, builders, academicians, practitioners, etc., who have different notions of sustainability and there was a necessity to bring coherence between different stakeholders.

Ram Babu Bhagat from International Institute of Population Sciences presented on the theme "Space, Place and Sustainability". He acknowledged that the impact of the population pressure was very significant on urbanisation and explained that the increase in population coupled with the agrarian crises had led to unique problems in India, which was not a critical issue in the developed world. Reflecting on the aspects of 'city', he brought out the presence of different spaces within a city. There exist ghettoization of communities as well as gated conclaves within a city and different spaces were emerging, entwined with social issues. Bhagat stated that urbanisation produced space, but raised doubts about whether it made place. He further brought out the issue of creative destruction (building-rebuilding) as an outcome of the urbanisation process and stressed on the need for 'alternative urbanisation'.

Shahab Fazal, a professor at Aligarh Muslim University, presented on the theme of "Urban Expansion: Is Sustainability a Real Concern? A case study using Geo-Spatial Technique". He spoke about perceptions regarding land, and how urbanisation consumed resources. Amidst various observations, he argued that limiting to urban-oriented discussions and confining studies to mega-cities would not help in understanding sustainability. Hence it was essential to look at rural expansion as well, which was as significant an element to assess development in India. He argued that although for the first time there was increase in urban population vis-à-vis the rural population as recorded in the 2011 Census, issues of land

degradation and land fragmentation in areas close to cities were never part of mainstream debates. He further added that loss of agricultural land was significant from the perspective of sustainability as it had an impact on livelihood and migration of people. With the application of the GIS technique, changes in land-use patterns were observed in his study of the Aligarh city. Fazal highlighted the negative relationship between urbanisation and the well-being of the people.

Mallarika Sinha Roy, from the Centre for Studies of Social Systems, JNU added a new dimension to the discussion by bringing in the issue of 'gender'. She talked about "Unlearning Development: Geography of gender politics" in her presentation. She felt that 'place' was a masculine concept as it was well defined and bounded whereas, 'space' had a feminine connotation to it because of its abstract character. Extending this binary, she held that development had a masculine component while sustainability was more feminine as a notion as it couldn't overlook people. She emphasized there was a need to clarify and identify who would be the protagonist of the discourses to be examined and whether it was to be gendered or not.

Roy highlighted that sexual violence in urban spaces, was influenced by migrant labour patterns. The conflict between urban women and migrant labourers had become a contested space. She also stressed that gender violence and women empowerment should be included in the sustainable development narratives. Roy explained that the character of jobs undertaken by women was to make them efficient and not subject them to exploitation. She advocated that places, spaces and sustainability narratives should be understood from the gender perspective.

Some crucial aspects of urban planning were presented by **Sunalini Kumar** from Lady Shri Ram Collage, Delhi University. She brought out the case of Delhi Master Plan while highlighting the need to review regional planning. She explained that there was baggage of 'centre' on the 'periphery', thereby stating that regionalism cannot escape the centre and was currently exploitating the periphery. Her presentation highlighted the peculiar weakness of regional planning bodies, which was deliberate according to her.

Shrawan Acharya from CSRD, JNU gave a presentation on "Restructuring and Creating Spaces-Cross Country Experience." Acharya asserted that space creation was not a neo-liberal agenda as they have always been created and recreated. Therefore, one should have a historical perspective to examine them she felt. It was important to analyse which phase of growth-decline has endangered or promoted sustainability in her opinion. He gave the example of declining cities of northeast United States and Amsterdam and of Sabarmati

revitalization project of Ahmedabad. He found the latter to be environmentally unsustainable. He emphasised that the community engagement for urban commons could offer interesting insights. The peculiarity of cities in creation of spaces was also highlighted and the need for exploring institutional arrangements was brought into the picture.

Ratoola Kundu from the Tata Institute of Social Sciences talked about the case study of Kamathipura in Mumbai. Through the case study, she highlighted the politics of land acquisition and ways by which the periphery was connected with the centre. She explained how Kamathipura being hub of the construction workers and a red light area, had defined its social and moral boundaries. It had remained the same over decades despite deliberate efforts by the state in the past and still offered cheap housing. It also provided space for small manufacturing units brought up by former sex workers, small investors, landowners, etc. Kundu revealed that resilience of Kamathipura, was actually the resistance against the onslaught of big capital. She highlighted that resilience of such spaces that were located at the heart of cities demanded to have a different outlook of the city.

Seema Joshi highlighted issues related to growth of IT and ITES. She explained that the service sector had a dominant of share of the economy that played a crucial role in urbanisation. She observed that agriculture had reached its limits in providing employment to people. Joshi believed that rural sustainability was essential for nurturing urban sustainability and would be imperative to look for alternatives. Through the study of IT sector in Gurgoan, she flagged issues related gender, lifestyle and health, environment and ethics.

'Natural heritage' was the theme of **Vikram Soni's** presentation. He explained that natural heritage was not only neglected but it was also encroached upon leading to the vulnerability of cities. He cited the example of floods of Srinagar and Chennai in this context. Considering water as an important aspect of urban sustainability, he asserted that artificial water sources as well as natural resources could be used sustainably. Soni highlighted the concept of 'natural cities' by using flood plains and forest areas that can be used as natural water reserves. He stressed upon the need to change people's outlook.

D Raghunandan from the Delhi Science Forum pointed out that the group had sidelined the issue of environmental sustainability. He stressed the need to bring out struggles and contestations in this regard. He gave the example of Delhi's air pollution that may be caused due to multiple reasons. He added that people's resistance and demand of these issues were to be highlighted and how these resistances and struggles were shaped. He forwarded that the state made deliberate attempts to define the boundaries of 'urban' that neglects spaces for the marginalized sections of the society. He also said that the issue of informal labour was

extremely important as informal economy couldn't be conducted in formal spaces.

Mihir Bhatt from the All India Disaster Mitigation Institute highlighted three areas for the future research. He emphasised the need to study the interplay of growth and sustainability. He asked how the pace of growth of a city could affect the quality of the life. Further, what was the impact of rapid urbanisation? Under 'role of role' he highlighted the need of study of the ecological growth of the city with examples. Under 'challenges as opportunities', Bhatt highlighted the need of searching for solutions for achieving the INDICS, AMRUT, smart city etc. On the matter of approach, he believed that either 'city as design' or 'city as justice' could be adopted.

Gordon McGranahan from Institute of Developmental Studies reflected that it was essential to critique outside the principles and terms of neoliberal theory. He expressed that the forum would be useful for interdisciplinary perspectives and research. He highlighted that the issue of climate change needed to be given due importance for its immense implications for sustainable development. On the issue of loss of agricultural land, Granahan suggested the issue be broken into two: loss of land and loss of activity of the people. He expressed his concerns on the idea of the pace of growth of cities and suggested reflection on the determinants of this growth.

The second part of the working group activity included discussions among members in order to charter out a concrete plan of action that would lead up to aa work report. Highlighting the issue of environmental sustainability, **D Raghunandan** commented that there must be coherence between the national as well as state plan on climate change as every issue of land-use, vehicular pollution or climate change was interconnected. Hence, while reflecting on environmental issues, the macro aspects should be taken into the account. **Kalai**, a researcher from ISID, suggested that 'caste and religion' should also be brought into the discussion. He gave an example of how a caste specific housing society proposed to be built in Bangalore. **Ratoola** suggested that smaller cities and peri-urban regions could be incorporated in the research arena. She explained how incremental spaces were foundation of the urbanisation process.

Diwan Singh raised questions in context of the growing size of the city and its impact. He also cautioned whether India would be able to sustain such rapid urbanisation. Singh said that there was an optimum size of a city beyond which it was not possible for it to sustain itself. He linked the growing rural urban poverty with the sustainability debate. Adding to the discussion, **Bhagat** elaborated that resources came from the environment, including technological resource (e.g., desalinisation). He further added that cities were not

bounded, rather boundaries were created for administrative contingency. **Acharya** pointed out that it was the combination of different institutional mechanisms that regulated the functioning of the state. He laid emphasis on the need of focusing on the evolution of the institutions, which were the basis of norms, standards, rules and laws. He stated that what got implemented on the ground level had a strong connection with the way institutions evolved.**Pranav N Desai s**uggested that the group could collectively ponder over various alternative sustainability solutions which would make the discussion more constructive and holistic.

Working Group III
Social Mobilization and Sustainable Urban Transformation
Coordinators
Dinesh Abrol, Pravin Kushwaha, Prathibha Ganesan, Pradeep Shinde and *Vikas Bajpai*

Working Group 3 started off with a round of introduction of participants. It was followed by a brief introduction to the key points for discussion by Dinesh Abrol. Before individual presentationsbegan, there was a discussion on the use of the term T-lab as using scientific jargon. Different opinions were voiced in support and opposition of the idea of using the term T-lab in the context of social science inquiry and action. The general consensus was that whatever term was used, the idea of engaging people's knowledge should be brought out at such platforms, be it a transformation lab, workshop, studio etc. This discussion was followed by presentations around different case studies.

Anju Manikoth shared her experiences of the campaign run by Citizen Science Collective, Action Aid (India). It was called as the 'People's Vision of the City'. This initiative was started as a result of missing voices of the people in the government's urban planning programmes such as JNNURM and the recently conceived 'smart city'. The agenda of peoples' participation in all these programmes was mostly on paper with no significant step taken to materialize it. Thus the 'People's Vision of the City' campaign aimed to bring different stakeholders together in order to talk about and envision a city which is sustainable, inclusive and equitable. Their aim was to create a multi-level dialogue between citizens, experts, academicians and planners, build consensus and then outreach to as many people as possible in order to create an alternative plan for the city.

The basic premises on which the whole initiative is based was on the idea of the *right to the city*, where one looked at the most vulnerable groups and how different ways of city planning could enable and disable their rights. The campaign looked at housing,

infrastructure, transport, water supply, waste management, education, health care, employment opportunities, social protection, pollutions, social and justice as the aspects of a city in order to create the dialogue. The campaign could be helpful in building capacities, educating and empowering people on the ground to participate and envision an alternative plan for the city which would be equitable, inclusive and sustainable. It could also help to create a network of people who would work towards bringing out an actual working city plan in collaboration with the government, planners, and construction agencies. She discussed the case study of Bhubaneswar where the campaign has already gone through some initial phases of identifying, mobilizing, network building and brain storming on important aspects of sustainable city among key stakeholders. The other major initiative by Action Aid she discussed about was the Urban Action School, which is a capacity building exercise for activists in order to address policy concerns in a bottom-up manner. This school intends to build the capacity of activists who have good ground experience and practical knowledge but lack theoretical insights.

S Janakrajan, Mohan Kumar and C Srinivasan presented their views and experiences on water and waste management in Chennai. Based on his experience in the field of urban ecosystems, **S Janakrajan** presented on the topic "Decoding Urban and Peri-urban Ecosystem." He pointed out at the institutional factors that led to the disaster associated with Chennai floods in December 2015 and the possible ways to avoid them in future. Janakrajan emphasized on the need to understand the city and scientifically decode the principles of the city's ecosystems and their fundamental problems . He felt that it was also important to understand what sustainability was, who defined it and whose perspectives it reflected. Whatever would be the infrastructural development happening to the city, one natural disaster would be enough to destroy the whole city. He believed that disaster management of the government was mainly based on money and material relief, that too as an interim measure. Basically, a holistic approach was much required to address urban sustainability and to avoid such disasters or to minimize its impacts upon people and environment. For this, we need to recognize urban ecosystems as continuum of ecosystems and cannot see them separately in isolation from the rural or other ecosystems.

Infrastructure development of cities without understanding its ecosystems had resulted in disasters like floods in Chennai many times already he said. The destruction of agriculture due to urbanisation in the urban peripheries created major internal migration to its cities and rural poverty got converted to urban poverty. Climate change induced disasters that led to

multiple stress factors and finally resulted in cumulative impacts that produced differential vulnerability within the urban population. In other words, the degree of vulnerability of the rich and poor of a city is different resulting in the ever declining quality of life in the cities. The institutional mechanism failed to capture the idea of incorporating ecosystems into their agenda and they gave least importance to weather reports that could have averted disasters like floods. The myopic development agenda, mindless urban expansion, unscientific urban land use policy, encroachments on main drainage systems, lack of comprehensive risk assessment-risk mitigation policy and policy for building resilience capacities for the city and its people have enhanced the degree of vulnerability of cities to disasters. To overcome such unsustainable aspects of the city, certain steps have to be immediately taken that include understanding the city ecosystem in all its detail, mapping its resources, vulnerabilities and risks, and protecting its natural resources and water bodies. To regulate and sustain the city development, Janakrajan highlighted the necessity of inclusive urban development and developing democratic institutional arrangements that need to moderate, stabilize and guide the processes of development in the city which will eventually lead to sustainability.

Mohan Kumar from Chennai talked about the relief campaign carried out during the recent Chennai floods in December 2015. He reiterated that when disaster happened, the government tried to confine itself to the role of distribution of compensation only. NGOs in Chennai recently started a campaign called Transform Annanagar to Heaven on Earth. The campaign entails sending e-mails to the residents of Annnagar to come and give their suggestions to avoid such disasters in the future. Initially, the campaign took two focal points (a) to avoid plastic usage and (b) to liaison with the government on recarpeting of roads and pavement fixing. They involved school children in their campaigns so that the mission of the program would be carried forward for a term by the children. A couple of meetings also took place with the residents of the area to get suggestions on how to come out of unsustainability problems of Chennai.

C Srinivasan talked about his experiences from the program in Vellore, Chennai, called Solid and Liquid Resource Management. The program attempted to circularize the urban metabolism of waste by processing the urban wastes within the city and use it for organic kitchen/rooftop gardening purposes. The primary point Srinivasan made was that the program did not conceptualize 'waste' as waste, rather it was conceived as a 'resource' or 'unwanted material' which was worth some value. The program ensured that in Vellore, the organic and inorganic forms of unwanted materials were collected separately at increased intervals in a day, transported to the nearest locality for further treatment and used processed

resources for different purposes. For the processing of organic resources, methods based on traditional wisdom were adopted. The program also promoted the re-use and recycling of organic materials and water within households for rooftop gardening within city limits. In this way, the waste generated from the cities need not be expelled out into its peripheries and could be processed and used internally. To execute the program, local people were mobilized from the socially and economically unprivileged groups and hands-on-training was given to them. These people got income from two modes: from the households from where they collected unwanted materials, and from its processing. The local technologies used for resource processing and recycling included use of dry cows, chicken, fish for composting, earth worms etc. so that by adopting local technologies and knowledge, local people were able to find solutions for local problems which ensured long term viability of such initiatives.

Kirti Sahoo, Amita, Pravin Kuswaha, Dinesh Abrol, Tikender Singh Panwar, and Janakrajan participated in the discussion session on the presentations on Chennai. The main points raised from the discussion were that urban vulnerability was a multiple level process and to tackle it, there must be anticipatory actions from the side of the government, community based interventions and risk analysis.

Prathibha Ganesan presented on the topic "Overview of Social Mobilization and Social Transformation in Kerala." She talked about how social mobilization had been used in Kerala as a medium for working towards social transformation and sustainability. Unsustainability and social inequality are inherent in the design of mainstream urban processes there and social mobilization is one of the approaches that have been used in transforming the society. However, the social mobilization processes with short-term solutions made social conflicts persist. So what was required were transformative solutions. Understanding of Kerala's particular context was required for the understanding of the social mobilization processes happening in Kerala. The state has a history of social mobilization experiences in caste discrimination, working class struggles, and the recent movements against solid waste dumping. Kerala also had experimented with decentralization and people's planning. Additionally, the urbanisation pattern of Kerala is very peculiar in that the rural density in urban setting is very high.

The state is presently experiencing sustainability issues with regard to increasing urbanisation and demographic change and associated problems, paucity of land for solid waste dumping and agriculture, vector borne diseases etc. The changes in demographic pattern and increasing outmigration resulted in problems associated with palliative care of elderly people. The increasing urbanisation and paucity of land in Kerala resulted in social

problems associated with centralized waste dumping and landfills which elicited a mass mobilization of people across the state which eventually resulted in governmental action for alternatives. Apart from this, the dependence on other states for food items had made the state vulnerable to the health issues associated with dangerous levels of pesticides, especially in the vegetables imported from neighbour states. This elicited a social mobilization process for the cultivation of organic food produce in Kerala. Alappuzha is one of the districts in Kerala which take care of solid waste management and organic vegetable cultivation in a good way.

In Alappuzha, anti-dumping movement had resulted in the closure of centralized waste treatment plant and later the local government adopted the *Thumburmuzhy* model of aerobic composting technology developed by Dr.Francis Xavior, Veterinary University of Kerala. *Thumburmuzhy* model of composting technology does not emit foul smell and is suitable for small areas as well. To have a holistic approach to deal with the solid wastes, three different waste management systems were used in Alappuzha: biogas plants for households, pipe composting for households having less free area, and *Thumburmuzhy* model for common areas. The compost from these common areas was used for organic farming in and around Alappuzha municipality area. After its successful implementation, later on, the political party CPI (M) planned to scale up the plan to entire Kerala through social mobilization. Particular training has been given to self-help groups so they could be the drivers of technical support for this initiative.

Another example of social mobilization in Kerala concerns organic farming. In Kanjikkuzhy panchayath in Alappuzha district, it started long back in 1996 to address the issue of decline of agricultural activities in the locality. Organic agriculture even on small land holdings in both individual spaces and collective spaces were promoted. A marketing company was formed with the interest of the MLA for the marketing of locally cultivated products. Later, the opposition party decided to scale it up especially considering recent reports on high level of pesticide contamination of commercially available vegetables.

Third focus area that Kerala took up were palliative care programs. Social mobilization actually led the government to take up the programs, to formulate the policy, and to involve the local government. But when it is seen in terms of sustainability, the palliative care programs concentrated on urban and peri-urban centres and tribal communities and rural areas were totally left out and in such way, the universal health care programs in Kerala were not taken care of properly. More and more emphasis was laid on the urban sector and no focus on the rural sector so universal health care in Kerala was not addressed.

Among the three aspects within the social mobilization approach, direct participation

was evident in the anti-solid waste movement which resulted in the government intervention for decentralization of waste management processes. However, in all the three cases mentioned, participation of a wide variety of actors was visible. If the social mobilization in Kerala is seen from the real world experiments perspectives, it can be seen that all the attempts were trying to transform the society. Social mobilization, technological intervention and the state have co-evolved in all these processes and strategies have also taken place to change the attitude of the people as well. The collective efforts and scientific interventions also contributed to the driving factors of transformative changes. However, finding solutions for the management of plastic wastes still remained a problem to be addressed within waste management. The increasing urban-rural divide and tribal health also need to be addressed to ensure sustainability in Kerala.

During the discussion, questions and comments were raised by Amita, Vikram Soni, Tikender Singh Panwar, Saurabh Arora, Anita Pinheiro, Pradeep Shinde, Janakrajan, Pravin, and Mohan. The key points from the discussion were a) tremendous social inequalities exist in the case of other-state-migrants in Kerala (b) there is rising concern on the issue of plastic use and it should be addressed (c) new media played a key role on the emerging issues of household waste management as well as vegetables production in Kerala (d) hierarchy existed at all levels and power dynamics also should be taken care of (e) awareness regarding sustainability should be imparted to people from childhood when they are in school. Prathibha responded to the comments and concluded that there were context specificities which limited replication of other state experiences in Kerala.

In his presentation titled "Organised Irresponsibility and Pathways to Sustainable Urbanisation", **Arunan M C** discussed the various studies conducted by students within the undergraduate programme which is a collaborative effort. They made use of a simple model systems and sophisticated research questions like knowledge consumers vs. knowledge producers. He spoke about the role of CUBE (Collaborative Undergraduate Biology Education), where examples of tree mapping were showing scales behaviour of tree, seasonomics and SAD (Seasonal Affective Disorder). He discussed how important it was to transform relations among teachers, students, citizens etc. before transforming the cities.

Discussant **Sharit Bhowmik** raised his voice about the construction worker welfare act or other acts for poor people who were involved. He put his emphasis on restoring dignity of the informal sector workers.

Vikram Soni built upon the historical perspectives of sustainability by sharing his interesting experiences of struggle for saving Delhi's ridge area (Aravali ranges) as that was

an ecologically sensitive area. He came up with very innovative strategies on processing mineral water through forests which he called as *Sub-terrainian* mineral water and reiterated the importance of water as a natural resource.

Puneet Kishor discussed endorsement and role of CUBE and emphasized the importance of making youth aware of conservation from the beginning. He urged about the importance and need of having open data systems and open science policy. He believed that openness should be one fundamental guiding principle .

K T Ravindran discussed the mechanisation of solid waste management which needed to be closer to science. He mentioned that 80 per cent of waste could be treated and used to raise the economy. So action plans must consider this area he urged. He revealed the miserable conditions of illegal migrants and demanded to have identities for those who work as rag-pickers or rickshaw-pullers.

Dharmendra pointed out that the privatization of solid waste management, and its legislation in which there was no provision about the workers, workers switching to mainstream and issue of unpaid workers, must be taken into consideration.

7. *Session 8:* Reporting back on amended position paper and priority for future research agendas

Working Group I

The presentations by three members of the working group allowed for an in-depth understanding of their experiences and engagement with policy advocacy and urban planning in Delhi and Chandigarh. Their experiences showed how furthering the goal of sustainable urban development centred on the well-being of human beings and the environment. A complex set of challenges were to be encountered at the level of governance bodies through which these goals were aimed to be channelized, as well as from other social institutions such as media and finally as a reflection from the existing inequalities in society and hegemony of certain social groups in representing their interests in the imaginations of the city.

The discussion aimed to address these challenges by reflecting on the proposed set of questions for the working group. Instances of positive nexus interactions between informal and formal processes that came out (assuming they did) in the presentations and from the experiences shared by other participants showed the importance of the role of people's

pressure groups, legal activism and media and research coming together as demonstrative of positive nexus interactions.

The discussion on the question on the sort of transformative action required for enabling productive alliances between the formal and the informal sector to address environment, health and exclusionary outcomes was initiated through placing concerns around the role of research or data and its relationship to policy advocacy in addressing this linkage between the formal and the informal sector. Some of the main issues that came up were: contesting data being put forward by different interests groups, lack of access to data on environment and work conditions impact due to power of big industry, the technocratic nature of data generation by scientists, the politics of acceptability of research by government bodies and the narrowness of disciplinary research and its impact on long-term policy advocacy. Many pointed out the need for focusing on 'relevant' and critical data instead of striving for objectivity and the need for both examining and building alliances with citizen's groups and organized communities, besides other sources, for research to have any weightage in transformative action.

The role of media was also an important topic of discussion with respect to the above question as well as from the perspective of prioritizing a policy engaged research. From the experiences shared by the participants, it seemed that while the way the issues around urban planning were taken up by the media needn't always draw a positive outcome towards sustainability, the need for engaging with it was still seen as significant. Research that emerged from a better understanding of its role in informal and formal nexus interactions could productively engage with the same. At the same time, the discussion platform itself decided to work towards generating an alternative social media platform where the issues discussed could be collated.

Working Group II

Sucharita Sen presented the report for Working Group 2 (WG-2), titled as **'Growth and Urban Sustainability'.** In her presentation she highlighted the contours of the discussions amongst the eighteen members of the group, which included economists, geographers, political scientists, planners and practitioners. She discussed that the group members presented their respective works, in sync with the aspects of urban sustainability. Various propositions were suggested, which included reflection on India's growth strategy, re-definition of sustainability, in the light of socio-economic justice and urbanisation. The discussion encompassed various institutional mechanisms in terms of cheapening of land,

process of urban planning, and adopting the urban-rural continuum. Adoption of the ideas of caste, religion and gender, formality-informality and inter-city comparisons, were some derived suggestions from the working group activities.

The speaker highlighted the plan of action of WG-2, which included outlining the urban processes and policies, incorporating the monitoring, evaluation and deconstruction of land, labour & environment and also some reflections on Institutional frameworks. She also laid emphasis on empirical studies to be undertaken by the group on diverse topics: on one hand it will deal with land, livelihood, labour and migration, and on the other hand, there will be focus on the city, spaces and identities, under the aegis of environment and urban sustainability. She said that various 'Alternatives' – in terms of documenting experiences and explorative research – will also be taken into account and focus will be given on 'multi-disciplinarity' as the core of their scheme of work, with cautious efforts to link different assertions and narratives.

Working Group III

Dinesh Abrol presented the outcomes of working group 3. In his presentation, Abrol highlighted the main points of different presentations on interventions on social mobilization and discussions held in the group. In the beginning of the session, various opinions were raised on the use of terms like labs in sociological inquiry and action, but consensus were arrived that the name can be anything, but the platform should be able to make engagements between people's knowledge and the science. He also talked about the future course of action discussed in the working group. It was decided that the future plans could be built upon the existing interventions presented, be it Bhuvaneswar, Chennai, Kerala or Shimla. The experiences and knowledge generated in these interventions would be a platform to build upon the future course of action. He emphasized that mapping of sources of unsustainability and mapping of sources of sustainability was inevitable to further planning and creation of alternatives at these sites of interventions

Discussants

Manu Bhatnagar, heading the natural heritage division of INTACH, pointed out the importance of engaging with the Master Plans and strengthening the hands of planners who are under pressure of the builders. He highlighted the significant role of land use norms in destruction of urban water bodies and therefore the need to address these if the water bodies are to be saved/revived. He identified the 'De-engineering of urban development' as a

structural issue that is essential if social and ecological dimensions are to get due attention in urban planning.

KT Ravindran, a prominent architect, provided a nine-pointer charter to create an actionable plan that reflected on shifting from economic transportation to inclusive participation, network formation for social validation, bringing together academia, practice and policy, social mobilisation to assist the de-corporatisation of cities, incorporating religion and caste in sustainability discourses, issues of energy and its privatisation, community work and urban governance.

D Raghunandan underlined that the processes occurring within rural areas that led to urbanisation also needed to be addressed. Apart from this, the patterns of urbanisation and how it affected environmental sustainability and social equitability also needed to be in the forefront of their focus. He also highlighted that environmental sustainability and social equitability were not separate and in fact were two sides to the same coin. He also pointed out that contestations existed in the policy and practice around sustainability and we needed to internalize the fact that the interventions discussed in the working groups were actually going to feed into these processes of contestation.

Brian Wynne focused his concluding thoughts on the ways forward to engage with the drivers of sustainable urbanisation. These drivers might be already noted but they still needed further discussion and research according to him. The balance of these drivers in different urban contexts and geographical regions globally was another area that demanded attention from the point of view of sustainable urbanisation. The ways in which we engaged with these drivers through research was also important he felt, and some of these could be following the patterns of migration – from the rural to the city, patterns of finances and investment. The discourses which lead to material practices and their implications also demanded critical inquiry in order to understand the mechanisms of (un) sustainability. With regard to the discourses that eventually make the visions which condense into urbanisation practices, it was important to look at what has failed to become the part of the discourse, the deletions and the omissions of people, their knowledge's, their culture and concerns. It was also crucial to look at the deletion of responsibilities in relation to these processes of knowledge-making and discourse. In this way, he said, maybe, as scholars we might be able to shift the balance of a carefully crafted discourse which might be used as a distraction from what is actually going on. For example why are we discussing sustainability rather than viability of the scenarios of urbanisation, he questioned. The issues around political economy need to be carefully woven in the design of inquiry for sustainable urbanisation.

Ian Scoones spoke about the positive cases which were discussed as part of the alternative approaches to sustainable urbanisation. He suggested that it was essential to get a grip, which is often difficult, on the positive interventions and success stories around alternative approaches rather than just looking at the flaws and problems of the dominant top-down models. He cautioned towards the juxtaposition of the dominant planning models with the alternative, narrowly defined, closed down, and overtly structured, controlled participatory initiatives, as both of them suffered from pathologies. The other most important discussion that emerged from the conference was about the political processes of alliance building for transformation. Scoones articulated that the rich discussions in the conference concerning class, interactions with data and knowledge's, practices of mobilization through traditional alliances as well as new media and contemporary networks led to a good background for an action-oriented research project.

Miloon Kothari underlined that social mobilization was highly important and the spread of public awareness and access to alternative methods towards building of sustainability should be in focus. He found it as a platform for regional connections and regional dimensions as well as technologies of sustainability. He emphasized that engagement with master plans should be looked forward to as no real engagement of public was done now a days. Therefore, he felt that there was a need to bring in the idea of sustainability at an appropriate stage of the planning process as that would reinforce planners because currently they were under great pressure from the real estate, government as well as land developers. Planners should be strengthened by strongly engaging with master plans process and new ideas of sustainability. He later shifted his focus to urban land policies, which presently do not accommodate features of sustainability. Legal framework should be strengthened at the urban level and regional level for supporting sustainability. Finally, he concluded with underlining the need of de-engineering of development in the near future.

Kirtee Sah reiterated that cities should be understood in a bottom-up manner and identified three major challenges faced by them. They are challenges of sustainability, inclusivity and participation because as cities were growing, they were facing more and more of these challenges continuously. Hence having a deeper understanding of these issues would help to solve these problems in the long term. He further found that the phenomenon of alienation was worrisome. He encouraged everyone to have an extensive outlook towards sustainability and urbanisation.

Aromer Revi pointed out that he observed adisconnect between the discussions in the conference and the everyday life of the urban. In the conference, discussions revolved around

sustainable cites in a global frame, but most of the instruments which were discussed were not fitting in within that goal. To cite, he mentioned about the absence of incorporation of employment, and questions of financing and power in the conference discussions on urban sustainability.

Pranav N Desai steered the discussion towards reconceptualising the process of urbanisation, as a resource augmentation engine. He laid stress on looking at alternative ways to understand the phenomena of sustainability, giving due consideration to issues pertaining to environment, health and livelihood.

8. Concluding Remarks

In the concluding session, **Dinesh Abrol** began with the appreciation of initiatives taken up by the participants, and said that the discussions gave a platform to academicians, planners etc. as they started speaking to each other. He acknowledged his hope that through this engagement with those who were participating, they could find the time and joined this project of sustainability. He announced that there must be a thought out future research agenda in a month's time. Lastly, he pointed that a variety of papers and publications by different groups along with interventions needed everyone's contribution and support.

Programme	
Timing	**29th January, 2016, Friday**
09.00 AM - 09.30 AM	**Tea / Coffee**
09.15 AM - 09.30 AM	**Registration**
09.30 AM -10.00 AM	**Introductory Session** **Chair:** Ian Scoones **Co-Chair:** Ritu Priya

	Welcome and Introduction to TRCSS	**Pranav N Desai**
	Introduction to the Conference	**Dinesh Abrol & Fiona Marshall**

Timing		
10.00 AM - 11.30 AM	**Current urban sustainability research by JNU and STEPS Centre** **Chair:** Brian Wynne **Co-chair:** Archana Prasad	
	Understanding Environment and poverty interactions for Sustainable urbanisation in India	**Fiona Marshall and Pritpal Randhawa**
	Health, Environment and Sustainable Urbanization: a Community - Systems Analysis Approach	**Ramila Bisht**
	Sustainable Urban Futures: Gurgaon-Manesar Urban Complex	**Pranav N Desai**
	Tooling-up: digital fabrications, smart urbanism and grassroots activism	**Adrian Smith**
	Digital grassroots and the collective producion of data: making cities think in sustainability and inclusion	**Mariano Fressoli**
	Constructing Pathways to Sustainability: Learning across disciplines, sectors, regions and cultures	**Anabel Marin**
	Urban Growth, Social Ecological Transformations and Sustainability in India	**Milap Punia**
	Does NGoisation of Slum Sanitation lead to Depoliticisation?: Slum Sanitation Programs in a Mumbai Slum	**Pradeep Shinde**
11.30 AM - 11.45 AM	**Tea/Coffee**	
11.45 AM - 01.30 PM	**Urban Sustainability: Perspectives and Approaches** **Chair:** Geetam Tiwari **Co-Chair:** Awadhendra Sharan	
	Economy, society, environment: pillars of sustainable cities or horns of an urban trilemma	**Gordon McGranahan**
	Risks and Responses to Urban Environmental Change	**Ravi Agarwal**
	Urban Landscapes in the Future - insatiability or Sustainability	**Romi Khosla**
	Affluence or Poverty? - A new look at 'Development'	**Dunu Roy**
	Synergizing the Nature of Urbanization and Urban Policies in India; An Approach of Sustainability	**Ram Babu Bhagat**
	The MEGADAPT approach to addressing social-hydrological risk in Mexico City	**Hallie Eakin**
	South Asia Urban Knowledge Hub: Finding Solutions for Livable Cities	**Ajith Kaliyath**
01.30 PM - 02.30 PM	**Lunch**	

02.30 PM - 04.00 PM	**Working Group formation** **Developing future research agendas - What it is to be done?** **Introduction to working groups positioning/provocation papers** **Chair: Fiona Marshall** **Co-Chair: Pranav N Desai**	
	Growth and Urban Sustainability	**Atul Sood and Sucharita Sen**
	Discussant	**Sunalini Kumar and Shravan K Acharya**
	Environment, Health and Sustainable Cities: What next for the nexus?	**Ritu Priya, Fiona Marshal, Ramila Bisht and Pritpal Radhawa**
	Discussant	**Ravi Agarwal and Dipak Gyawali**
	Social Mobilization and Sustainable Urban Transformation	**Dinesh Abrol Pravin Kushwaha, Prathibha G, Vikas Bajpai and Pradeep Shinde**
	Discussant	**Miloon Kothari, Dunu Roy, Amita Bhide**
04.00 PM - 04.30 PM	**Tea/Coffee**	
04.30 PM - 05.30 PM	**Working Group Activities Begin** **Participants: WG1***	
	WG – 1: Environment, Health and Sustainable Cities: What next for the Nexus? Coordinators	Ritu Priya, Fiona Marshall, Ramila Bisht, Pritpal Randhawa
	Participants: WG2**	
	WG – 2: Growth and urban sustainability Coordinators	Atul Sood, Sucharita Sen
	Participants: WG3**	
	WG – 3: Social Mobilization and Sustainable Urban Transformation. Coordinators	Dinesh Abrol, Pradeep Shinde, Pravin Kushwaha, Prathibha G, Vikas Bajpai
07.00 PM onwards	**Dinner at Faculty Cafeteria, JNU**	
	30th January 2016, Saturday	
09.30 AM - 10.00 AM	**Tea / Coffee**	
10.00 AM - 11.00 AM	**Working Group activities**	
11.00 AM - 11.30 AM	**Tea/Coffee**	
11.30 AM - 1.00 PM	**Working Group activities continue**	
01.00 PM - 02.00 PM	**Lunch**	
02.00 PM - 03.30 PM	**Preparation of working group reports**	
03.30 PM - 03.45 PM	**Tea/Coffee**	
03.45 PM - 06.00 PM	**Reporting back on amended position paper and priority for future research agendas & concluding remarks** **Chair: Adrian Smith** **Co-Chair: Atul Sood** **Presentation from WG1, WG2 and WG3**	
	Discussants	**Manu Bhatnagar, K T Ravindran, D. Raghunandan, Brian Wynne, Ian Scoones, Miloon Kothari, Kirtee Shah, Aromar Revi**
	Concluding Remarks	**Dinesh Abrol**

ABBREVIATIONS

TRCSS	**Transdisciplinary Research Cluster on Sustainability Studies**
IDS	**Institute of Development Studies**
SPRU	**Science Policy Research Unit**
STEPS	**Social, Technological and Environmental Pathways to Sustainability**
ICSSR	**Indian Council of Social Scince Research**
ESRC	**Economic and Social Research Council**
SASH&KN	**South Asia Sustainability Hub & Knowledge Network**
JNU	**Jawaharlal Nehru University**
CSSP	**Centre for Studies in Science Policy**
CSMCH	**Centre of Social Medicine and Community Health**
CIS&LS	**Centre for Informal Sector & Labour Studies**
CSRD	**Centre for the Study of Regional Developmnt**
JNNURM	**Jawaharlal Nehru National Urban Renewal Mission**
WG	**Working Group**
NCR	**National Capital Region**
T-LAB	**Transformation Lab**
BMC	**Brihanmumbai Municipal Corporation**
DMIC	**Delhi Mumbai Industrial Corridor**
BRT	**Bus Rapid Trasit**
WHO	**World Health Oganization**
DU	**Delhi University**
IT	**Information Technology**
AMRUT	**Atal Mission for Rejuvenation and Urban Transformation**
ISID	**Institute for Studies in Industrial Development**

LIST OF ACTUAL PARTICIPANTS

S. No.	Name	Affiliation
1	Abdul Shaban	Tata Institute of Social Sciences, Tuljapur Campus
2	Adrian Smith	STEPS Centre, UK
3	Amita Bhide	Tata Institute of Social Sciences, Mumbai
4	Anabel Marin	CENIT, BA, Argentina
5	Anita Pinheiro	Centre for Studies in Science Policy, JNU
6	Anjali Chikersal	Centre for Policy Research, New Delhi
7	Anju Manikoth	Action Aid India
8	Anna Zimmer	University of Lausanne, Switzerland
9	Archana Prasad	Centre for Informal sector & Labour Studies, JNU
10	Aromar Revi	Indian Institute of Human Settlement, Bangalore
11	Arunan M. C	Tata Institute of Fundamental Research, Mumbai
12	Atul Sood	Centre for the Study of Regional Development, JNU
13	Aviram Sharma	Nalanda University, Nalanda
14	Awadhendra Sharan	Centre for the Study of Developing Societies, New Delhi
15	Brian Wynne	Lancaster University, UK
16	C. Srinivasan	Vellore - Indian Green Services (IGS)
17	D. Raghunandan	Delhi Science Forum, New Delhi
18	Dharmender	Lokadhikar
19	Dipak Gyawali	Nepal Academy of Science and Technology, Kathmandu
20	Dunu Roy	Hazard Centre, New Delhi
21	Geetam Tiwari	IIT Delhi, New Delhi
22	Gordon McGranahan	Institute of Development Studies, UK
23	H. Ramachandran	Institute for Studies in Industrial Development, New Delhi
24	Hallie Eakin	Arizona State University, USA
25	Himanshu Upadhyay	Azim Premji University, Bangalore
26	Ian Scoones	Institute of development Studies, UK
27	Ima Chopra	Centre of Social Medicine and Community Health, JNU
28	K. T. Ravindran	RICS School of Built Environment, Amity University, NOIDA
29	Kaveri Gill	Independent Researcher, New Delhi
30	Kritee Shah	KSA Design Planning Services, Ahmedabad
31	Mallarika Sinha Roy	Centre for the Study of Social Systems, JNU
32	Manu Bhatnagar	Indian National Trust for Art and Cultural Heritage, New Delhi
33	Mariano Fressoli	CENIT, BA, Argentina
34	Meghna Arora	Centre of Social Medicine and Community Health, JNU
35	Mihir Bhatt	All India Disaster Mitigation Institute, Ahmedabad
36	Milap Punia	Centre for the Study of Regional Development, JNU
37	Miloon Kothari	Architect, New Delhi
38	Mohan Kumar	Anna Nagar Campaign

39	Nabil	Centre of Social Medicine and Community Health, JNU
40	Nafees Meah	RCUK India
41	O. P. Bhuraita	State Resource Centre, Shimla
42	Pradeep Shinde	Centre for Informal sector & Labour Studies, JNU
43	Pranav N. Desai	Centre for Studies in Science Policy, JNU
44	Prathibha G	Centre for Studies in Science Policy, JNU
45	Pratibha G.	Centre for Studies in Science Policy, JNU
46	Pravin Kushwaha	Centre for Studies in Science Policy, JNU
47	Pritpal Randhawa	Centre for Studies in Science Policy, JNU
48	Priyanie Amerasinghe	International Water Management Institute, Hyderabad
49	Puneet Kishor	HBCSE, Mumbai
50	R. Srinivas	TCPO, MoUD, GoI, New Delhi
51	Rahul Ronny	Centre of Social Medicine and Community Health, JNU
52	Rajashree Saharia	Centre of Social Medicine and Community Health, JNU
53	Rajesh Kumar	PGIMER, Chandigarh
54	Ram Babu Bhagat	International Institute of Population Sciences, Mumbai
55	Ramila Bisht	Centre of Social Medicine and Community Health, JNU
56	Ratoola Kundu	Tata Institute of Social Science, Mumbai
57	Ravi Agarwal	Toxics Link, New Delhi
58	Ritu Priya	Centre of Social Medicine and Community Health, JNU
59	Romi Khosla	Architect, New Delhi
60	S. Janakrajan	Madras Institute of Development Studies, Chennai
61	Satish Sinha	Toxics Link, New Delhi
62	Shahab Fazal	Aligarh Muslim University, Aligarh
63	Sharit Bhowmik	University of Mumbai
64	Shashi Bhushan Pandit	All India Kabadi Majdoor Mahasangh
65	Shrawan Acharya	Centre for the Study of Regional Development, JNU
66	Subhan Khan	Mewat Development Society
67	Sucharita Sen	Centre for the Study of Regional Development, JNU
68	Sunalini Kumar	Lady Shri Ram College, DU
69	T. K. Joshi	
70	Tikender Singh	Deputy Mayor, Shimla
71	Vijay Pratap	South Asian Dialogues on Ecological Democracy, New Delhi
72	Vikas Bajpai	Centre of Social Medicine and Community Health, JNU
73	Vikram Soni	

LIST OF PRESENTATIONS

S. No.	Name of Presenters	Title of Presentation
1.	Pranav N Desai	Welcome and Introduction to TRCSS
2.	Dinesh Abrol and Fiona Marshall	Introduction to the Conference
3.	Fiona Marshall and Pritpal Randhawa	Understanding Environment and Poverty Interactions for Sustainable urbanisation in India
4.	Ramila Bisht	Health, Environment and Sustainable Urbanization: A Community - Systems Analysis Approach
5.	Pranav N Desai	Sustainable Urban Futures: Gurgaon-Manesar Urban Complex
6.	Adrian Smith	Tooling-up: Digital Fabrications, Smart Urbanism and Grassroots Activism
7.	Mariano Fressoli	Digital Grassroots and the Collective Production of data: Making cities think in terms of Sustainability and Inclusion
8.	Anabel Marin	Constructing Pathways to Sustainability: Learning across Disciplines, Sectors, Regions and Cultures
9.	Milap Punia	Urban Growth, Social Ecological Transformations and Sustainability in India
10.	Pradeep Shinde	Does Ngo-isation of Slum Sanitation lead to Depoliticisation?: Slum Sanitation Programs in a Mumbai Slum
11.	Gordon Mc Granahan	Economy, Society, Environment: Pillars of Sustainable Cities or Horns of an Urban Trilemma
12.	Ravi Agarwal	Risks and Responses to Urban Environmental Change
13.	Romi Khosla	Urban Landscapes in the Future: Insatiability or Sustainability
14.	Dunu Roy	Affluence or Poverty? - A new look at 'Development'
15.	Ram Babu Bhagat	Synergizing the Nature of Urbanization and Urban Policies in India; An Approach of Sustainability
16.	Hallie Eakin	The MEGADAPT approach to addressing social-hydrological risk in Mexico City
17.	Atul Sood	Growth and Urban Sustainability
18.	Ritu Priya, Fiona Marshal, Ramila Bisht and Pritpal Randhawa	Environment, Health and Sustainable Cities: What next for the Nexus?
19.	Dinesh Abrol, Pravin Kushwaha, Prathibha G, Vikas Bajpai and Pradeep Shinde	Social Mobilization and Sustainable Urban Transformation

20.	Geetam Tiwari, T K Joshi, Rajesh Kumar, T K Joshi, Priyanie Amerasinghe, Satish Sinha, Mariano Fressoli, Geetam Tiwari, Rajesh Kumar, T.K. Joshi, Fiona Marshall, Hailie Eakin, Aviram Sharma, Ritu Priya, Milap Punia, Pritpal Randhawa,	Discussions in Working Group I on the theme of **Environment, Health and Sustainable Cities: What next for the Nexus?** Coordinators: Ritu Priya, Fiona Marshall, Ramila Bisht and Pritpal Randhawa
21.	Atul Sood, Sucharita Sen, Abdul Shaban, Ram Babu Bhagat, Shahab Fazal, Mallarika Sinha Roy, Sunalini Kumar, Ratoola Kundu, Seema Joshi, Vikram Soni, D Raghunandan, Mihir Bhatt, Gordon McGranahan, Diwan Singh	Discussions in Working Group II on the theme of **Growth and Urban Sustainability** Coordinator: Atul Sood
22.	Anju Manikoth, S Janakrajan, Mohan Kumar, C Srinivasan, Prathibha Ganesan, Sharit Bhowmik, Vikram Soni, Puneet Kishor, K T Ravindran, Dharmendra,	Discussions in Working Group III on the theme of **Social Mobilization and Sustainable Urban Transformation** Coordinators: Dinesh Abrol, Pravin Kushwaha, Prathibha Ganesan, Pradeep Shinde and Vikas Bajpai
25.	Dinesh Abrol, Manu Bhatnagar, K T Ravindran, D Raghunandan, Brian Wynne, Ian Scoones, Miloon Kothari, Kirtee Sah, Aromer Revi, Pranav N Desai	**Discussions and Concluding remarks**

http://www.jnu.ac.in/TRC/SS/