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Building **IN**clusive **U**rban **COM**munities

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LDW in progress. Day 3 experts panel.

Local Dissemination Workshop, KRVIA

Ainsley Lewis

The local dissemination workshop for Building Inclusive Urban Communities organised at the KRVIA was held under the aegis of Erasmus plus program funded by the European Union. The program was held from the 14th -16th of September 2017 at Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies (KRVIA), Mumbai.

The primary intent of the workshop was to disseminate information generated by the research work to the various stakeholders as was an imperative part of the BInUCom program.

We at KRVIA extended this program so at to have a larger outreach to other faculty of other institutions. Eight groups of stakeholders were identified and invited to participate in the Local Dissemination Workshop. They were broadly classified into the following: -

1. Researchers – A team of five faculty, Abhijit Ekbote, Hussain Indorewala, Mamta Patwardan, Kimaya Keluskar and Shweta Wagh and one researcher, Nishant Pai from KRVIA are involved in undertaking case studies and conducting corresponding courses based on the research, presented a preliminary draft of the work done till date.

2. Knowledge experts- This group comprised experts with several years of experience with a diverse gamut of issues based on their own research. Each individual researcher was recommended and invited by these experts. The experts were Ecologist -Dhrubajyoti Ghosh; Prof. Uday Athvankar (Affordable Housing); Prof T.I. Eldho (Water Resources & Environmental Engineering), Prof. Brinda Ayer all Professors at IIT Mumbai.

3. Subject experts - This group consisted of experts who were conducting research closely related to the subject matter at hand. In this case too, individual researchers recommended and invited these experts. The intention to invite these experts was to not only guide the researcher but also raise a red flag to issues that the experts have encountered through their own research. The invitees were Simpreet Singh (IIT, Mumbai); Prof. Ashok Lall (Architect, Delhi, Design & Technology chair KRVIA), Mahua Mukherjee (IIT, Roorkee), Javier Martinez and Jeroen Verplanke (ITC, Netherlands); Manju Menon (Center for Policy Research, Delhi); Prof. Prasanna Desai (Principal of PVP College, Pune); Dr.Usha Ramanathan (Expert on law and poverty, Delhi) and

Prof. Neera Adarkar (Faculty of School for Environmental Architecture, Mumbai).

4. Local communities - This community was indirectly involved owing to the workshop conducted by Abhijit Ekbote (KRVIA), Javier Martinez and Jeroen Verplanke from ITC Netherlands the partner institution in the BInUCom project.

5. Non-Governmental Organisation - NGO's with their vast grassroots knowledge could expose the researcher to varying conditions in other contexts.Sheila Patel (SPARC); Sitaram Shelar (Paani Hakka Samiti) and Neeta Chalke (Mashal, Pune) where the invitees of the respective NGO's that gave feedback not only to the research undertaken but also to the content of the courses.

6. Academicians -Several senior academicians were invited to assist in the course content of the various courses prepared by the researchers. Their wide knowledge in the field of architecture and urban design programs, gave valuable inputs regarding pedagogy and course content on the courses presented by the researchers. Prof. Akhtar Chauhan (Former Principal, Rizvi College), Prasad Shetty (Faculty of School for Environmental Architecture, Mumbai); Prof N. Sridharan (Urban Economist, SPA Bhopal) and Dr. Binti Singh (Urban Sociologist, Lucknow) participated.

7. Partner Institute in the program. - ITC Enshede, Netherlands was represented by two of its faculty Javier Martinez and Jeroen Verplanke who conducted a workshop in the informal community along with the students who has signed up for the course conducted by Abhijit Ekbote.

8. Students- Students from the final year Undergraduate Program in Architecture and the Masters in Urban Design and Urban Conservation were the target group as they were part of the courses conducted by the researchers in the current semester.

Though several politicians and bureaucrats were invited and had confirmed none of them were able to attend the workshop. With this wide range of experts and professional the three days had very specific agendas and participation from respective groups.

The first day was devoted to a workshop on Geographic Information System that trained faculty and students to use mapping tools purchased under the aegis of the BInUCom program, in an informal settlement in Mumbai. This workshop began with a session in the institute followed by on-site work for the rest of the day. This mapping was closely related to the case study carried out by Abhijit Ekbote.

The second day of the workshop commenced with a talk by our Director, Aneerudhha Paul, who introduced and outlined the BInUCom program to all the invitees. The institute had involved itself in the study of 'Production of Informality in the Mumbai Metropolitan region' to help facilitate a better understanding of the overall informal situation in the city. This study was carried out and presented on the first day by Nishant, an independent researcher working with the institution on the BInUCom program. This was followed by a presentation by Hussain Indorewala who elaborated on issues of informality in the City of Mumbai. His presentation highlighted the development in the Island city and hence the resultant labour issues that led to informal settlements. After this introduction the rest of the day focused on the research undertaken by the researchers from KRVIA. The format for the following sessions were smaller round table presentations by the researchers from KRVIA to the various invited experts. This was followed by presentations made by the subject experts. Feedback was then given to the research culminating in a group discussion.

The students who were part of the respective courses participated in all these sessions.

The Third day of the workshop began with various presentations made by the academicians about courses related with informality conducted in their institutes. Prof. Manoj Parmar presented the work done in the Local Area Planning studio conducted in the Masters' program under the aegis of BInUCom. Prof. Ainsley Lewis made a presentation about the Housing Studio and its correlation to the course conducted by Hussain Indorewala for the final year students of the undergraduate program in Architecture. All the three courses conducted had specific learning not only for the students but also for the faculty conducting the sources. At the undergraduate level where the intent was to integrate courses it became evident the individual sources can have their own respective course pedagogy with a common subject matter. The learner is encouraged to critique and thus raise questions independently in the individual course. This pedagogic approach leads to a much more participatory engagement between fellow students and faculty. The research and design projects produced in both the two studios along with the study of informal settlements in the Mumbai Metropolitan region was showcased as an exhibition in the school premises. Prof. Rohan Shivkumar moderated the question-answer session after all the presentations made by Academicians.

The final two sessions had presentations by researchers on the courses that they were conducting. This was followed by comments from the panel of stakeholders of the workshop. The workshop was meaningful as it had a lot of food for thought for all the participants. The researchers obtained feedback on the case study work that they were involved in. The discussion and critique of the courses being conducted offered learnings for the faculty to better their courses. The invited academicians were pleased that this

initiative to debate pedagogy and formulate courses that was undertaken in the field of architecture. The students gained insight to behind the scene discussion about pedagogy and course material. This workshop will result in much more relevant course material for courses that focus on contemporary issues of policy, resilience and climate change, mapping techniques, understanding imperial data for buildings and social inclusion.

Hussain Indorewala during the experts panel

Notes on the Local Dissemination Workshop
- Hussian Indorewala

My case-study paper, tentatively titled 'Winning Hearts and Minds: World Bank and Housing in Mumbai' intends to unravel the complex relationship between knowledge, ideology and social policy, in this case, Mumbai's housing policy since the 1980s. The paper will explore the role of transnational networks of influence in shaping the evaluative, discursive and institutional practices of city-making, and the production of the 'common sense' view of urban development in cities of the global south. The paper begins by providing a sketch of the World Bank's policies and lending in the

housing sector, and tracing both the shifts and continuities over six decades. Later, after introducing the Bank's various interventions in Mumbai, the paper takes up three areas where its influence has been most visible: land policy, development rights and regulatory practices. The paper, in brief, focuses on how a particular way of thinking about housing, promoted by the Bank, has over time become the norm. My course, on the other hand, titled 'Housing Theory: Understanding Urban Settlement and Occupation' is meant to introduce students to different 'ways of thinking housing' drawing from political theory, urban sociology and anthropology. It seeks to engage with various conceptions of housing *expressed* in language and law, *produced* by institutions and practices, and *framed* by aspirations and struggles. Over the course of 12 modules, these will be introduced, unpacked and developed, and then and contrasted with one another.

For discussing my case study paper we invited legal researcher and scholar Dr. Usha Ramanathan, who is an expert on human rights, displacement, technology, land and environment and is based in Delhi. We also invited social activist Simpreet Singh, who was active with the National Alliance of People's Movements and is now part of an art/research collective in Mumbai.

In her response to the paper, which were mostly indirect, Dr. Usha Ramanathan pointed out the noticeable shift in the development discourse in the past 20-30 years where the question of *rights* (shelter, livelihood) have been replaced largely by questions of *process* (e.g. 'participation'). The role of the World Bank in this shift is significant. She also urged looking into the influence of other transnational agencies such as the Ford Foundation in shaping development discourse. Her remarks, drawing from the experience of Delhi, directed attention to the relationships between urbanization, rural employment,

urban development projects, displacement, resettlement – with the suggestion that transience is a reflection of the demand for flexible and footloose labour in cities where development occurs in 'spurts' (the Commonwealth Games being a good example). Finally, Dr. Ramanathan discussed the various debates and strategies adopted by activist groups and NGOs to respond to transience – such as night-shelters – and some of the flaws in these approaches.

Simpreet Singh's comments were more specific to Mumbai. He cited examples of some contrasting comments of Indian politicians soon after independence, where 'slums' were spoken of as both unacceptable as well as legitimate habitations of the poor. He pointed out that these tensions are built into what is perhaps the most important piece of legislation pertaining to informal settlements in Maharashtra: The Slum Act of 1971. He pointed out that there is a great deal of incongruity in the way 'slums' are understood, perceived, defined, and declared. These incongruities are typically reflected in how ownership of land, role of intervening agencies, legal and social implications of declaration, and other factors affect how the term 'slum' is demanded or deployed. He also indicated that increasingly the term has been used based on visual criteria (what 'looks like' a slum) while many slum dwellers themselves use it tactically ('what are the possibilities / consequences of getting our settlement declared a slum?'). He noted that this tactical use is facilitated by the prescription of due process in the legislation, that when followed, makes evictions quite onerous to the authorities. He urged a closer reading and analysis of the Act in the context of when it was framed, and to contrast it with more contemporary attitudes towards informal settlements.

While some of the responses to my course outline encouraged the course's focus on epistemic, political and methodological

debates on housing, there was some concern about the perceived lack of house form exploration or study of types, especially since this course is meant for students of architecture. In response to this concern, it was pointed out that a theory course on housing must to more than be preoccupied exclusively on what architects do, rather, it ought to be concerned with the reasons why architects are presented with housing questions in a certain way.

Kimaya Keluskar during the experts' panel

Mapping Livability of Lower Income Housing Typologies in the City of Mumbai

Kimaya Keluskar

The current governmental policy under the Slum Rehabilitation Authority (SRA) envisages, ironically, a re-housing of existing residents into multi-storey tenements by private real estate developers, subsidized through the profits gained by commercial exploitation of the land. It does not favour progressive in-situ improvement or community based redevelopment. Several SRA projects have been executed. The assumption is that the multi storey tenement is an environmentally sound alternative to 'slums'. The on field study opens up newer patterns and relationship of

the built and the individual, the built and the neighbourhood and the neighbourhood and the city. Anecdotal observations supported with scientific data clearly identify multi storey tenement typology as an alternative to density at the expense of environmental condition. The slum redevelopment, rehabilitated living units are deprived of daylight, ventilation and sanitation. Function in these living units is difficult and requires reliance on constant artificial energy source for uninterrupted chores of work, exerting pressure on the financial expenditure of the household; thus leading to 'Poverty Trap'. In these communities the idea of the 'house' is more about possession and not been looked integral to daylight and ventilation for its function. It's a space to stack their belongings, perform day to day activity and shelter their dear ones. Hence environmental conditions are less of a priority and often go under noticed in such cases. Feeling of 'comfort' is related to expectation. The slum unit is usually composed of tin roof sheeting and blue plastic covering to safeguard the inhabitants from rains. The indoor conditions within them are highly uncomfortable owing to high ambient temperatures as they are devoid of adequate daylight and ventilation. Same inhabitants rehoused in these multi storey tenement experience better condition. Vote on 'comfort' for building adaptive comfort model from these communities is likely to be under reported where expectation of comfort is low because of their psychosomatic condition. Usually the failure of indoor comfort in these units is always blamed upon the external climatic conditions (high temperatures, dry spells etc.) and not the physical conditions of the building. In agreement to the above findings experiences on site draws difficulties in acquiring information related to climate implications, wellness and wellbeing of inhabitants. At the neighbourhood level, advantages of location with respect to access and affordability to housing within the city limits are provided by compromising on right of

living in environmentally sound condition; where one has no access to gated parks, gymkhana etc. Kids are deprived of access to open space, play areas and education, while elderlies are home bounded owing to no mechanical assistance for vertical transition. For livability assessment weighted approach is necessary to filter these peculiar patterns of access and affordability where more than 30% of the people are not comfortable with having no access to these facilities within the neighbourhood. As architecture is spatial discipline one has to deal with physical conditions of these housing typologies to derive percentage of livability in such living conditions. Facilitate to obtain a subjective view and perception of local residents about their environmental conditions, heat stress, health and Climate Change risks.

Key findings and Discussion:

The expert panel discussion helped in identifying areas of intervention. Firstly, everyone believed that this kind of research is necessary and important to create platform for understanding the relationship of built environment and its occupants, impact on health and well-being of an individual and lately a key driver in creating resilient communities. The study has the potential to inform building regulation policy within the city; it clearly urges the need to have policies regarding alteration, retro-fitting or up gradation design decisions in future institutionalized by the government and not left to the discretion of an individual. and material palette for intervention. The findings put light on importance of Post Occupancy of these housing colonies at the building level as well as neighbourhood level. Policy change and refined Development Control Regulation (DCR) can then reinforce the index of livability within the city making it a better habitable space. Livability also has qualitative indicators which progresses once the basic living condition is well organized and made accessible with clean air, water and sanitation. Thus, the study draws attention at two major markers to create livability within informal settlement. Firstly, addressing design regulations to govern 'livability' within the housing units provided by the state and secondly executing awareness and continuous guidance consultation to occupants in running co-operative housing societies; on how to build corpus, maintaining lifts, water tanks etc. This would have immense impact on the condition of housing units within the city and the wear and tear that happens owing to bureaucratic process in making and occupying these units. The journey of a slum dweller from slums to slum rehabilitation scheme undergoes so many uncertainties that the idea of the 'Pucca house' overrules the conditions and the quality of housing provided. However, this image starts changing once the occupants start living in those units and progressively faces health and well-being issues. The study clearly denotes the adaptive capacities within people in informal settlement. Its state's role to now increase their mitigation capacity by providing resilient housing units and guidance t run these housing societies to build resilient communities.

Expert's Review:

Sampling size taken for the research was adequate for initial study. The intent and methodology was clear and oriented towards a good quality research. A yearlong investigation would help to articulate seasonal impact and design decisions. It would be helpful to study BBD Chawl typology to understand cohesive living and equipped housing units. Weighted livability index would help create permutations and combinations of housing schemes to cater to different requirements across the city. Overall the study objectives were stated clearly and its role in informing policy, design regulations, institutional role and building community awareness for self-sustenance post rehabilitation.

Course Name: Mapping Livability within lower income housing typologies in the city of Mumbai

Conducted by – Ms Kimaya Keluskar in Sem 09, 2017 as part of Allied Design Course

Intent of the Course:

In an urban context informal settlements are continuously evolving in their physical condition and communities evolve economically, as they get integrated into the urban economy. They are recipients of as well as contributors to the environmental stresses of the city: urban heat island effect, pollution of the commons of air, contamination and obstruction of open watercourses and subsoil contamination. And yet they also signify the human capacities for survival, adaptation and resilience in the face of such odds. The physical built environment – its materials of construction and the configurations of built and open space, the flow and cycle of energy, water and waste, with the overarching backdrop of Climate Change – seen in relation to the felt needs and human capacities of such communities provides the broad frame for pedagogic research. We should surmise that bottom-up, community-based design strategies could transform these informal settlements into sustainable communities. Indeed, this process may provide a template for low-carbon, environmentally sustainable urban systems that are affordable for a majority of citizens in developing societies. Conducting comparative analysis of liveability in various slum rehabilitation schemes provided by the government. Mainly looking at Informal settlement, PAP housing, Site and Services scheme. Qualitative and quantitative analysis of settlements using environmental meters and tools on site. The module focusses on engaging students on site to understand:

1: Relationship of built form with and individual

2. Impact on energy consumption on livelihood

3. Impact of built environment on health and mortality rate

4. Framing strategies to create building inclusive and resilient communities

5. How to build climate responsive Architecture?

Method:

- Identify parameters that govern 'sustainability' within informal settlements. Sustainable livability index provides an understanding of requirements, tools to create healthy living conditions, establish cohesive relationship with the environment and neighbourhood communities.
- Develop techniques of surveying and mapping various parameters of environmental condition in these settlements as objective data measured with instruments.
- Develop methods for recording subjective perceptions of residents - of their comfort, stress and state of health.
- Develop framework for comparative analysis of empirical data from case studies for qualitative and quantitative evaluation different typologies.
- Use of scientific measurement tools; Spot measurement of thermal comfort parameters – temperatures of ambient air, radiant temp, surface temp, air movement, and humidity combined with geo positioning. Thermal imaging, data logging using data loggers, Outdoors Mapping at city, neighbourhood scales, Indoor mapping
- Mapping water and waste systems within informal settlements.
- Heat mapping within dwelling units in each typology to assess the building construction and material performance with respect to climate.
- Daylight assessment within buildings and habitable spaces
- Analysis of electrical consumption for artificial lighting and comfort co-

relating consumption with building performance.

- Analysing the performances of building materials with respect to the operational cost in relation to household income.
- Developing communication techniques for informing resident communities about environmental issues.
- Statement of environmental objectives; Identification of spatial and technological design opportunities and challenges in the given physical and economic constraints. Life cycle assessment to arrive at scenarios where minimal technological intervention can benefit the community

Expert View:

The experts were of the opinion that such course should be run across two semesters for students to conduct qualitative and quantitative survey throughout the year. This would help the students to establish the relationship of seasonal changes and shifts to the built form and its impact on indoor conditions. Overall they rated it as a good and exhaustive course. Recommendations were to stress on helping and equip students with tools and methods of representing and analysing such data collected from site.

Shweta Wagh during the experts panel

Notes from the Local Dissemination Workshop

Shweta Wagh

My case-study paper is tentatively titled 'Land Tenure and Contested Claims: Situating the Koliwada in Mumbai's Policy Discourse.' In this paper I attempt to understand and analyse how development categories are deployed, what kinds of claims they offer and how these play out in the experience of Mumbai's urban transformation. It looks at the politics of categorization through a discussion of various cases that illustrate the complex systems of tenure, imaginations of development and contestations over land in Mumbai's fishing villages or koliwadas. In the first section of my paper, I discuss aspects such as community, land tenure, occupation and the physical fabric within urban fishing villages in Mumbai in order to highlight various complexities and layers which make it difficult to clearly define or classify these settlements. The second section of the paper lays out the contemporary urban development and policy context of Mumbai within which these settlements are located. The final section presents four case studies in which I touch upon the diversity of settings and geographical contexts they belong to, their trajectories of historical evolution and development, communities who have settled here over time, various systems of land tenure that exist, policies or regulatory frameworks that are applicable, the relationship between different community groupings and the nature of conflicts that have emerged as a consequence. The selected settlements include the fishing villages of Sion, Worli, and Mahim in the island city and Versova which is located in the Western Suburbs.

For discussing my case study paper we invited Dr. Amita Bhide, who is Professor and Dean at the School of Habitat Studies, Tata Institute of Social Sciences in Mumbai. She has been

deeply involved in issues of urban poverty, livelihoods and advocacy linked to the same in Mumbai and in other cities in India. We also invited Manju Menon, a senior fellow at the Centre for Policy Research, where she directs the environmental justice program of Namati, an international NGO dedicated to legal empowerment. Manju researches the environmental decision making process in the regulatory and public arenas and is interested in the processes of environmental law making and implementation related to the siting and regulation of infrastructure projects.

In her response to the paper, Dr. Amita Bhide pointed out that an important aspect for the study would involve defining the notion of indignity. How does one look at historical injustice towards vulnerable and marginalized communities in the city due to the transformation of land tenure consisting of customary and common property rights? How does one use or employ this notion of historical injustice when it comes to making contemporary claims over rights to land? While the indigenous community is generally imagined as traditional or frozen in time, it is important to acknowledge that these communities are also experiencing significant changes in terms of needs and aspirations. Due to this the drive for speculative land development is top down as well as bottom up. She also suggested that the paper dwell much more on methodology, especially the authors' close engagement with the fisher community over the past several years and an involvement with various activists and advocacy collectives in the city around urban planning and environmental concerns. Manju Menon on the other hand described the paper as rich in content and ethnographic material which could be presented either as a theoretically grounded or journalistic account. She then went on to discuss various theoretical frameworks to understand the empirical findings of the case studies. A few of the themes discussed included 'Seeing like the State', ongoing processes of colonization, divisive strategies employed by the government through reinforcing identity politics amongst vulnerable communities, various systems of land tenure and 'borderlands' or areas of ambiguity between established regimes.

On the second day academics from architecture colleges were invited to respond to the course structures developed as part of the Binucom program. My elective course titled "Understanding Urban Informality" was focused around evaluating existing discourses, frames and methods used to understand or map informal settlements. It included a theory as well as studio component and was designed as three modules. While the first module focused on discourses and representation, the second module examined or evaluated the frames and lenses used to understand informal settlements. The third module attempted to evolve appropriate research and documentation methods based on this understanding. During the discussion it was pointed out that although the course highlighted and discussed social aspects related to informal settlements, it did not lay sufficiently emphasis on the physical or built form of these settlements. As a response to this it was clarified that the pedagogic intent of the elective course was to equip the students to understand or unravel the 'invisible' layers that determined both the physical form as well as future possibilities for these settlements.

Mamta Patwardhan during the expert's' review.

Climate Risk Assessment of Health Impacts on Vulnerable Groups

Mamta Patwardhan

The workshop was organized at the institution and involved participation from a wide array of stakeholders including knowledge and subject experts, community representatives, members of NGO's working in similar areas of interest and academicians. Research has currently accomplished acquisition of adequate primary data and the program now entails organizing a local dissemination workshop with the objective of promulgation of the research findings to the various stakeholders involved.

My case study deals with the "Climate Risk Assessment of Health Impacts on the Vulnerable Groups" The following experts were present for my case study presentation.

Professor T.I. Eldho, IIT Mumbai Brinda Ayer, Environment and Development Planner, Dr. Mahua Mukherjee, Associate Professor, Department of Architecture & Planning, IIT Roorkee. Professor Prasanna Desai, Principal PVP College of Architecture, Pune

The knowledge experts were welcome to make their own presentations pertaining to the case study that served to supplement and strengthen the study of the researcher.

Prof T. I. Eldho from IIT, Mumbai, currently involved in preparing a flood risk map for the city of Mumbai, presented "Urban Flood Management – Assessment of Vulnerability & Risks Using Computer Simulations" that imparted essential information related to vulnerabilities to flood risk in the city and mapping methods.

Brinda Ayer, an urban planner presented "Policy review on mitigation and adaptation of urban areas to climate change" that assisted in understanding policy intervention for developing adaptive strategies to vulnerable communities. Prof. Prasanna Desai, Principal of PVP architecture college, Pune presented "-Tailor Made Transformation: A people participatory "approach to slum rehabilitation." This proved to be of exceptional succour in understanding participatory method of slum upgrading which is an essential part of building resilience in vulnerable communities.

Prof. Mahua Mukherjee presented "Sustainable Studio Designs" that also aided in understanding how design could inform adaptive strategies.

The numerous challenges faced due to the political sensitivity of the area had to be emphasized upon. I discussed the structured interviews conducted on the basis of respondent driven sampling and the findings. I also presented the course I had developed structured in 6 modules as follows: -

1. Climate Change and Urban Environment

2. Impacts of Climate Change on Cities

3. Risks and their Uncertainties

4. Risk Assessments through Case Studies

5. Hazard Mapping

6. Developing adaptation strategies

Prof. Eldho explained that considering the technical expertise required to carry out a

scientific flood risk mapping of the area, it would be advisable to carry out a participatory risk mapping of the flooding and water logging areas and the same could be applied to identify areas most exposed to fire hazards that lead to aggravation of health issues. He mentioned that I should incorporate the use of GIS for hazard mapping that would facilitate in carrying out a hazard analysis.

Brinda explained that health is a highly specialized area of study and for the research to feed into the curricula of a design and planning school it is imperative that I look at building resilience of communities with the help of policy interventions as well as risk based land use planning. She insisted that existing policies should be reviewed during the course and revisions suggested to ensure that they address climate change and mitigation but more so adaptation. She mentioned that I need to research further on the role of urban planning for disaster risk reduction as that would facilitate the students of the master's program to examine in the local area planning studio work.

Mahua focussed on the significance of integration of risk and resilience in land use planning. She reiterated that in order to introduce the concept of risk at a design and planning level it is necessary to strengthen knowledge by studying housing and planning as a tool for reducing disaster risk as also suggested by Christine Wamsler (*Housing Development & Management (HDM) department, Lund University, Sweden),* who is a reviewer for the BInUCom program as well.

Prasanna insisted that a bottoms up approach is essential to facilitate community adaptation to climate change. He felt that the course should involve more interaction with the inhabitants in the community to understand the complexity of risks. He opined that dissemination of the design and planning strategies should be carried out within the community to help create awareness and co-operation by the inhabitants. He suggested

that one of the modules must incorporate community participation.

The participation of the academicians invited ensured that this operative of the workshop of promulgating knowledge to a larger academic audience was accomplished and there would be a positive effort appropriated in incorporating socially inclusive curricula in additional schools as well.

Abhijit Ekbote conducting the GIS workshop with Javier Martinez and Jeron Verplanke.

Notes from the Local Dissemination Workshop
Abhijit Ekbote

My case study, which is titled as 'Accessibility of Designated Open Spaces to Informal Settlement: A Study of K West Ward in Mumbai' is about studying the nature of accessibility of protected open spaces, as per the city's development plan, to the informal settlements. It is often observed that public open spaces, which are reserved by the development plan, are either sparsely or completely inaccessible to the informal settlers in Mumbai. The paper attempts to investigate the existing data on open spaces and informal settlements and further identify additional parameters, which need to be mapped in order to gauge their degree of accessibility. The conclusions of this study would make the degree of accessibility explicit, which could be

furthered by future studies, which aim at formulating strategies towards making these open spaces accessible to informal settlers. The curriculum of GIS was created around this study, where the students learnt actual the application of GIS through various stages of the study.

The experts who were invited to discuss my case study were, Architect Neera Adarkar, who has been instrumental in preparing a study of open spaces for MMR-EIS (Mumbai Metropolitan Region Environment Improvement Society), Sitaram Shelar, an activist who has worked on several social issues related to participatory urban governance and citizen rights, Prof. Javier Martinez & Prof. Jeroen Verplanke who are teaching at the University of Twente, Netherlands and have written several papers on quality of life and well being.

The first day of the workshop started with Prof. Jeroen Verplanke introducing the students to an android based platform for on-site mobile data collection. This was an interactive session where the students were given android tablets and asked to create simple forms for data collection on sites. This enabled the students to understand the possibility of scaling up the forms for collecting complex data sets, which are geo-referenced.

The second day of the workshop started with the presentation of my case study to the experts and participating students. Neera Adarkar's response to the study was that I should focus on the informal settlements, which coincide with the areas marked as designated open spaces. She shared her valuable observation that the informal settlers existed prior to the creation of development plans. She added saying that in most cases the informal settlement areas have been marked later as designated open spaces by the city planners, assuming that they would eventually

be evicted and with an intent of achieving a hypothetical standard of open space for a given population.

Sitaram Shelar suggested that there have been several instances where designated open spaces have been appropriated for uses such as malls, which are only accessible to the elite segment of the society. This observation can be used by the study to add certain additional qualitative parameters for documentation of designated open spaces. He also suggested that the development plan is being recently revised and present mechanism of developing open spaces needs to be studied.

Javier suggested that the case study needs to ground itself on a strong theoretical framework, for instance, 'Right to the City'. This will help in focusing on and validating certain qualitative parameters that the study chooses to lay stress on. He further suggested that I could look at the various typologies of conditions, such as open spaces appropriated as clubs, malls and elite housing and then carry out qualitative GIS to understand the typologies.

These suggestions have been carefully noted and are used to sharpen the on-going research paper.

Jeron Verplanke with the GIS workshop students

Local dissemination workshop in Mumbai and Coimbatore

Javier Martinez

KRVIA and Karpagam hosted two tailor-made trainings in Mumbai and Coimbatore between 14-19 September 2017 with the support of ITC / University of Twente. ITC was responsible for coaching the training aiming at facilitating the assessment of quality of life in communities through participatory mapping and mobile GIS applications. The tailor-made trainings had a duration of two days and they were targeted to students and staff members of the hosting institutions as well as local stakeholders.

The trainings took place within the BINUCOM local disseminations workshops of Mumbai (KRVIA) and Coimbatore (Karpagam). They were conducted by Jeroen Verplanke and Javier Martinez (ITC) with the local support of Abhijit Ekbote in Mumbai and Kathiravan Pandian and Rishab Sharma in Coimbatore. As part of the dissemination process of the BINUCOM project, the trainings were targeted to BSc and MSc students of architecture, staff members and invited local stakeholders. In KRVIA, MSc students were trained to collect information required for the case study "Accessibility of Designated Open Spaces by Formal and Informal Housing Areas". Mapit GIS was used by the students to practice the process required to collect spatial data with a mobile mapping tool. In Karpagam BSc students and staff members involved in different BINUCOM case studies received a short training on "How to use simple mobile mapping tools in quality of life and community well-being assessment".

As a follow-up, the skills and data collected during the trainings will be incorporated in the case studies and as part of the curricula.