

Managing and Reducing Social Vulnerability in the Context of Flood Risks in Mumbai

Representative: GCOE-HSE Mumbai Base, Kyoto University, Japan

Date: January 21-22, 2011

Place: Sir J.J. College of Architecture, 78/3 JJ College, Mumbai G.P.O (Fort), Mumbai, Maharashtra-400001, India

Organized by the Global COE Program “Global Center for Education and Research on Human Security Engineering for Asian Megacities”

Co-organized by School of Planning and Architecture, New Delhi, India, Municipal Corporation of Greater Mumbai (MCGM), Mumbai, India and Sir J.J. College of Architecture, Mumbai, India.

Participants:

GCOE Mumbai Team

Norio Okada (Director of Disaster Prevention Research Institute, KU, Japan), Hirokazu Tatano (Leader, GCOE Mumbai, KU, Japan) B. Misra (Senior Advisor & Coordinator, KU-GCOE Mumbai Project), Subhajyoti Samaddar (Post Doctoral Researcher, DPRI, KU, Japan), Roshni Chatterjee (Urban Planner, GCOE-HSE Mumbai Base, KU, Japan)

School of Planning & Architecture (SPA), New Delhi, India

Kavas Kapadia (Professor & Dean of Studies) & Sanjukta Bhaduri (Professor & Head, Urban Planning Department)

Sir J.J. School of Architecture, Mumbai, India

Rajiv Mishra, (Professor and Principle), M.M. Dalvi (Professor)

Municipal Corporation of Greater Mumbai (MCGM)

S.S. Shinde (Joint Municipal Commissioner)

MASHAL (NGO), India

Sharad Mahajan (Head, MASHAL, Mumbai, India)

United Way Mumbai, India (NGO)

Ajay Govale (Program Director), Anil Parmar (Program Coordinator), Ashwini Dhillare (Program Executive)

YUVA (NGO), India

Bharat Kale (Program Manager)

Civil Defense, Civil Society, Mumbai

P.V.Suresh, (Chief Warden), Maya Parihar Malhotra (Head Quarter Officer)

Mumbai International Airport Authority, India

Nitin Sawant (Emergency Planner)

Mumbai Port Trust, India

Suhas Sawant (Safety Officer), A.P. Mattu

Number of Participants: 45 (including 15-20 students from Sir J.J. College of Architecture, Mumbai, India)

Purpose

The third workshop of the Global COE program, “Global Center for Education and Research on Human Security Engineering for Asian Megacities (GCOE-HSE)”, Mumbai base was held at Sir J.J. College of Architecture, Mumbai, India on January 21 & 22, 2011. The purpose of this workshop was to share experience, ideas and knowledge among different stakeholders including city government, research institutes, civil society and practitioners dealing with Mumbai disaster risk issues, to build networks with and among different stakeholders and institutions and to develop a road map for GCOE-HSE Mumbai Base.

Opening Remarks

The workshop was opened by B. Misra, Senior Advisor & Coordinator, KU-GCOE Mumbai Project, Norio Okada, Director of Disaster Prevention Research Institute (DPRI), Kyoto University, Japan, Hirokazu Tatano, Leader, GCOE Mumbai, Kyoto University, Japan, Kavas Kapadia, Professor & Dean of Studies, School of Planning & Architecture (SPA), New Delhi, India and M.M. Dalvi, Professor of Sir J.J. College of Architecture, Mumbai, India. The Director of DPRI, Kyoto University and the Leader of GCOE-HSE Mumbai Base thanked everyone for their participation in the workshop and also Sir J.J.

College of Architecture for co-hosting the workshop. Prof. B.Misra and Prof. Kapadia welcomed all participants in the workshop. Prof. Dalvi, on behalf of the Principle of Sir J.J. College of Architecture (Prof. Rajiv Mishra), stressed that their prestigious college was very honored to receive the representatives from Japan and other reputed organizations of Mumbai and also expressed concern over the recent environmental threats in Mumbai.

Achievement and Results

The participants in the workshop stressed on the growing concern over the city’s Disaster Risk Vulnerability. Community based initiatives for addressing social vulnerabilities and participatory approaches were significant points discussed. Examples of other Asian cities were cited and successful disaster mitigation techniques were brought to the forefront. Professionals from the field of Critical Infrastructure, Gateway Infrastructure (like Airports and Ports) and other organizations presented their visions on Risk Perception and Disaster Risk Reduction (DRR) in their respective fields. The Joint Commissioner of Municipal Corporation of Greater Mumbai (MCGM) discussed the potential hazards in Mumbai and the subsequent mitigation measures adopted by MCGM in this regard. Almost 45 participants attended the workshop, bringing together not



Fig: Participants of the 3rd Workshop of GCOE-HSE Mumbai

only professors, but also a large number of practicing professionals. Another achievement of the workshop was the participation of the large number of students which reflected a growing interest in Disaster Risk Reduction.

A banquet closed the workshop offering the GCOE-HSE members a chance to strengthen the ties with the representatives of different stakeholders and institutions. The workshop was mutually beneficial for GCOE-HSE and the representatives of the various organizations. It provided a common platform to share and exchange ideas between practitioners of different but related fields which eventually proved to be fruitful for the future of Mumbai.

The Workshop

The workshop, which lasted for 2 days, was divided into the following session topics: **Conceptual and Methodological Approach to Social Vulnerability Assessment, Perception of Social Vulnerability, Integrated Disaster Risk Management (IDRiM) & Critical Infrastructure, Technical Options for Better Risk Reduction and Policy Options for Better Risk Reduction and the Possible Role of the Local Communities, Mumbai.**

After the welcome speech, the second session was opened by two keynote speakers: Norio Okada, Director of Disaster Prevention Research Institute (DPRI), Kyoto University, Japan and Hirokazu Tatano, Leader, GCOE Mumbai, Kyoto University, Japan. Prof. Okada discussed

how science and technology can cope with disasters better. He cited examples of disasters in other Asian countries like Malaysia and Indonesia and brought to light the new technique of Participatory Approach for Integrated Community Action Plan and Management being successfully implemented in Kemiren Village in Japan. Prof. Tatano introduced the concept of Human Security Engineering. He talked of the overseas bases in Asia and their future research collaboration with Kyoto University. He simultaneously discussed the concept and action plan for Integrated Disaster Risk Management (IDRiM).

The third session on the topic "Conceptual and Methodological Approach to Social Vulnerability Assessment" was chaired by Prof. Okada. Before lunch there were 2 presenters, B. Misra, Senior Advisor & Coordinator of KU-GCOE Mumbai Project and Kavas Kapadia, Professor & Dean of Studies, School of Planning & Architecture (SPA), New Delhi, India. Prof. Misra enlightened the concept of Risk Dynamics and IDRiM. He further explained the importance of systemic cognition approach to understanding social vulnerability. Prof. Kapadia in his presentation explained the issues related to Disaster Management at a micro-level from studies conducted in Rajiv Gandhi Nagar and Kalina in the Dharavi slum area of Mumbai. Post lunch Rajiv Mishra, Principle of Sir J.J. College of Architecture, stressed how the post-independence planning policies eventually lead to the existing disaster threat to Mumbai.



Fig: Nitin Sawant, Maya Parihar Malhotra, P. V. Suresh



Fig: (From Left) Bharat Kale S. S. Shinde, B. Misra, Hirokazu Tatano



Fig: Rajiv Mishra (Professor and Principal, Sir J.J. College of Architecture, Mumbai, India) making his presentation

Session 4 was dedicated to “Perception of Social Vulnerability” and was divided between day 1 (Jan 21, 2011) and day 2 (Jan 22, 2011). The first day session was chaired by P.V. Suresh, Chief Warden of Mumbai Civil Defense and the presenters were Sharad Mahajan, Head of MASHAL, Mumbai, India and Anil Parmar, Program Manager of United Way Mumbai (NGO), India. Mr. Mahajan Showed a short movie which stressed how in spite of being a slum Dharavi is an important commercial and industrial township of Mumbai. However since the area lacked proper infrastructural services, Dharavi Redevelopment Authority had prepared a proposal along with the Dharavi slum dwellers to build a housing and commercial township for the area which never got implemented till date. Mr. Parmar discussed about the Community-based Initiatives adopted by their NGO for addressing Social Vulnerabilities of Mumbai City. The next day the same session was opened by Maya Parihar Malhotra of Mumbai Civil Defense where she highlighted the internal working methods of Civil Defense to combat Social Vulnerability with special reference to floods in Mumbai.

Session 5 was on the topic “Integrated Disaster Risk Management (IDRiM) & Critical Infrastructure” and was chaired by Prof. Kavas Kapadia. The presenters were Nitin Sawant, Emergency Planner of Mumbai International Airport Authority, India, P.V. Suresh, Chief Warden of Mumbai Civil Defense, India and Suhas Sawant, Safety Officer of Mumbai Port Trust, India. Mr. Sawant presented technical aspects on aviation accidents with special focus on flood risk mitigation at airports. In this regard he explained Pre-monsoon Contingency Plan and other flood mitigation measures at airports. Mr. Suresh of Mumbai Civil Defense threw light on the damages caused by 26th July Mumbai flood and the subsequent mitigation measures initiated by Civil Defense post the disaster. Suhas Sawant of Mumbai Port Trust gave an informative presentation about the various terms related to port and its functions. He explained the possible disaster risks that a port faces and the mitigation measures adopted by Mumbai Port Trust to prevent or tackle any disasters.

Session 6, post-lunch, was dedicated to the

“Technical Options for Better Risk Reduction” which was chaired by B. Misra, Senior Advisor & Coordinator of KU-GCOE Mumbai Project. The presenters were Sanjukta Bhaduri, Professor & Head of the Urban Planning Department, School of Planning & Architecture (SPA), New Delhi, India, Hirokazu Tatano, Professor, Kyoto University, Japan & Leader of GCOE Mumbai Base Project and Subhajyoti Samaddar, Post Doctoral GCOE Researcher. Prof. Bhaduri stressed on the need of Risk Sensitive Planning Process and possible strategies that could be adopted for Flood prone areas of Mumbai at the Greater Mumbai level, Mithi River Area Level and the Local Area Level. Prof. Tatano, in his presentation, introduced a new technique to measure the economic losses caused by the disruption of transportation system (because in Mumbai the railways and highways are also threatened by the flood risks). Dr. Samaddar ended the session with his presentation where he explained the broad objectives and phases of the GCOE-HSE project in Mumbai. He also discussed the technique for identifying vulnerability pattern in a flood prone micro-hotspot of Mumbai, India through a field survey conducted by the GCOE team in the same area.

Session 7 was dedicated to the “Policy Options for Better Risk Reduction and the Possible Role of the Local



Fig: (Left) Sanjukta Bhaduri, Kavas Kapadia and (Behind) Students of Sir J.J. College of Architecture, Mumbai, India participating in the third Workshop of GCOE-HSE



Fig: (From Left) B.Misra, M.M.Dalvi, Hirokazu Tatano and Norio Okada

Communities, Mumbai". It had 2 presentations by S.S. Shinde, Joint Commissioner of Municipal Corporation of Greater Mumbai (MCGM) and Prof. B. Misra. Mr. Shinde talked of the hazards that have impacted or can potentially impact Mumbai city and the efforts and gaps of MCGM to successfully mitigate such potential hazards.

Prof. Misra discussed the critical factors for implementation of IDRiM and the possible pro-active policies that could be undertaken for flood risk reduction in megacity Mumbai.

In the closing session of the workshop Hirokazu Tatano, B.Misra and Rajiv Mishra, Principle of Sir J.J.

College of Architecture, Mumbai gave their closing remarks. Prof. Misra and Prof. Tatano once again expressed their thankfulness towards Sir J.J. College of Architecture, Mumbai for co-hosting the workshop. Prof. Tatano also especially appreciated the students of the institute for their voluntary help and cooperation. Rajiv Mishra on his part invited the GCOE-HSE Team to conduct any such workshops in future in their premises and also expressed much interest in collaboration with GCOE-HSE, Kyoto University, Japan which he thought would be mutually beneficial for both.