



Cross Cutting Capacity Development (3cd) Program
Disaster Risk Management Master Plan
(DRMMP) Implementation in the Kathmandu Valley



Field Trip Report No. 2
Stakeholder Priority Assessment and Planning



July 3 to 7, 2006

Participating Agencies and Organizations

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Dr. Fouad Bendimerad, Chairman
Dr. Antonio Fernandez, Principal Scientist

Pacific Disaster Center, PDC

Mr. Jim Buika, 3cd Principal Investigator
Ms. Jeannette Fernandez, Project Manager (EMI/PDC agreement)

Kathmandu Metropolitan City, KMC

Mr. Devendra Dongol, Head Urban Planning Department
Mr. Bhattarai Sadhu, Head Social and Welfare Department
Ms. Kumari Rai, Head Disaster Risk Management Unit

National Society of Earthquake Technology, NSET- Nepal

Amod Mani Dixit, Executive Director
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3cd Program
DRMMP Implementation in Kathmandu Valley

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Calendar of Activities

| | Mon. Jul. 3 | Tue. Jul. 4 | Wed. Jul. 5 | Thu. Jul. 6 | Fri. Jul. 7 |
|---|---|--|--|--|--|
| am | <p>3cd PIT*</p> <p>Preparatory Meeting at NSET</p> | <p>KMC</p> <p>Understanding Planning Efforts and Building Code Implementation at KMC</p> | <p>Workshop</p> <p>Options for Building Code Implementation & Enforcement</p> <p>Hotel Marshyangdi</p> | <p>Workshop</p> <p>GIS Stakeholders at NSET</p> <p>Courtesy Calls</p> <p>UNDP, OCHA, MLD</p> | <p>3cd PIT Mtg</p> <p>Debriefing and Review of Program in KTV at NSET</p> |
| pm | <p>KMC**</p> <p>Strategic Planning Session, Executive Office Urban Develop Social Welfare Depts.</p> | <p>Stakeholder Workshop</p> <p>Priorities for Implementing a DRMMP in KTV</p> <p>Hotel Marshyangdi</p> | | <p>Ward Level Activity</p> <p>Response & Preparedness a Planning Session</p> <p>Hotel Orchid</p> | <p>International Team Departs</p> <p>*PIT=Program Implementation Team **KMC=Kathmandu Metropolitan City</p> |
| <p>Parallel activities:</p> <ul style="list-style-type: none">  Survey of Communications and GIS capabilities and data sources for future implementation of Disaster Risk Management Tools, such as a Map Viewer.  Meeting KMC Urban Planning Department and consultants to discuss current project to develop new urban plan for Kathmandu Valley.  Identifying sound practices and completing review of the Disaster Risk Management City Profile. | | | | | |

3cd Program DRMMP Implementation in the Kathmandu Valley

2nd Field Trip Stakeholder Priority Assessment and Planning July 3 - 7, 2006

This field trip report summarizes: 1) 3cd Program background in Kathmandu, 2) agreements, 3) schedule and program milestones, and 4) deliberations and proceedings, supplemented by six attachments describing: a) Field Trip proposed agenda, b) DRRMP 3cd Program Proposal for KTV, c) Ward-Level Simple Emergency Plan Model, d) Organizing for Effective DRM at the City Level, d) Individual Workshops Reports, and e) Evaluation Forms.

1. Background

The Cross-Cutting Capacity Development program carried out under the partnership PDC/EMI, and with the support from UNDP/BCPR and the ProVention Consortium, was launched in the Kathmandu Valley (KTV) in September 2005 after a careful preparatory phase. Design of the 3cd Program application in KTV started in October 2004 and included the following decisive steps:

1. Signature of a Memorandum of Cooperation between the Kathmandu Metropolitan City and EMI in January 2005,
2. Assemble of a Disaster Risk Management (DRM) City Profile for the Kathmandu Valley, and
3. Identification of risk reduction sound practices that led to a better understanding of current Disaster Risk Management (DRM) organization and delivery in the Nepali capital city and its surrounding municipalities.

On September 2005, the first field trip to KTV took place, Jim Buika from PDC and Jeannette Fernandez from EMI/PDC conducted project definition field work which comprised a number of working meetings with important actors linked to risk reduction and management at the national, regional and local levels. The purpose was to introduce the 3cd Program, develop an understanding of DRM activities relevant to KMC, appreciate current constraints and concerns, register the interest from different parties, and evaluate the resources available for the implementation phase. The first trip resulted in the identification of five focused areas of consideration in the development of the DRMMP for KMC.

1. Reorganization and strengthening of the DRM unit at KMC,
2. Incorporation of Risk Reduction elements in the long term urban planning project of the Kathmandu Valley
3. Support KMC to put into practice a competent process for the implementation and enforcement of the Building Code
4. Strengthening preparedness and response capabilities at the ward level, and

5. Development of appropriate risk communication tools consisting of internet accessible map viewers, dissemination of sound practices through DRM knowledge base, and land use and planning e-learning modules among others.

Political unrest in Nepal prevented a more dynamic flow of activities in KTV, nevertheless, in the period September 05 to July 06, the 3cd Program maintained close contact with KMC officials and NSET to further develop these five areas and prepare the agenda for the second field trip. During this period a discussion paper related to the implementation of a Disaster Risk Management Master Plan (DRMMP) for the KTV and the identification of 7 initial areas of focus and 20 potential actions to address these focus areas was finalized as the core document for future design and implementation of the 3cd Program activities in KTV.

On July 3-7, 2006, the second field trip was undertaken. The main objective was to advance the development of the DRMMP around the initial five focused areas of interest identified in September/05, through a consultative process with the partners and stakeholders, and to develop a framework for implementation.

2. Agreements

1. During the next quarter, both teams will jointly develop a tangible scope of work and timeline for implementation, based on the lessons learned from the activities undertaken during the second 3cd program fieldtrip and the priorities set by the stakeholders. Figure one shows milestones for the 3cd Program in the period October 2004-November 2006.
2. The five focused areas for the DRMMP were confirmed, but there is a need for a continued reinforcement of these areas by defining specific activities under each one of them, i.e. DRM unit re-organization at KMC, land use and planning, building code implementation, ward level activities, and ICT and risk communication tools development. The 3cd program implementation team for Kathmandu (NSET, EMI, and PDC) will produce a short project definition document for each one of the five areas.
3. Follow up with both local and international organizations contacted, by making field trip reports and other program definition documents available to all the participants. Promotional materials both in English and Nepali need to be prepared in order to disseminate lessons learned and keep city stakeholders abreast to further risk reduction and management actions in the Kathmandu Valley. NSET will be in charge of disseminating the information locally; both teams will work on the design of the promotional materials.
4. NSET as the local investigator in Kathmandu will procure details on several sound practices identified, such as the building code implementation in Lalitpur or the DRM Committees at the ward levels, with examples from very dynamic groups such as wards 17, 19 and 4. Other sound practices already available in the knowledge base require some update and completion.

5. NSET will be the depository of every document, publication, data sets, etc generated as part of the implementation process in Kathmandu. This information will be disseminated among interested parties and will be opened for consultation at the NSET premises. Duplicate documentation will be held at EMI offices in Manila.
6. The 3rd Disaster Risk Management Master Plan implementation process and specific elements to accelerate risk reduction and management in the Kathmandu Valley will be presented during the third field trip to Kathmandu expected November 13-17 2006. With this purpose and to gain local and international support and visibility for the program, a high level meeting will be organized. Expected participants include national, regional and local organizations such as the Ministry of Home Affairs –MOHA as the apex body for DRM in Nepal, the Ministry of Local Development –MOLD, the Kathmandu Valley Town Development Committee –KTVDC, the Department of Urban Development and Building Construction –DUDBC, the Municipality of Kathmandu –KMC, and its neighboring municipalities, Baktapur, Lalitpur and Timi. International organizations based in Kathmandu and in the region will be also invited, in particular UNDP country office as well as funding organizations such as OFDA.

KMC-3cd-Project Schedule-2004/06

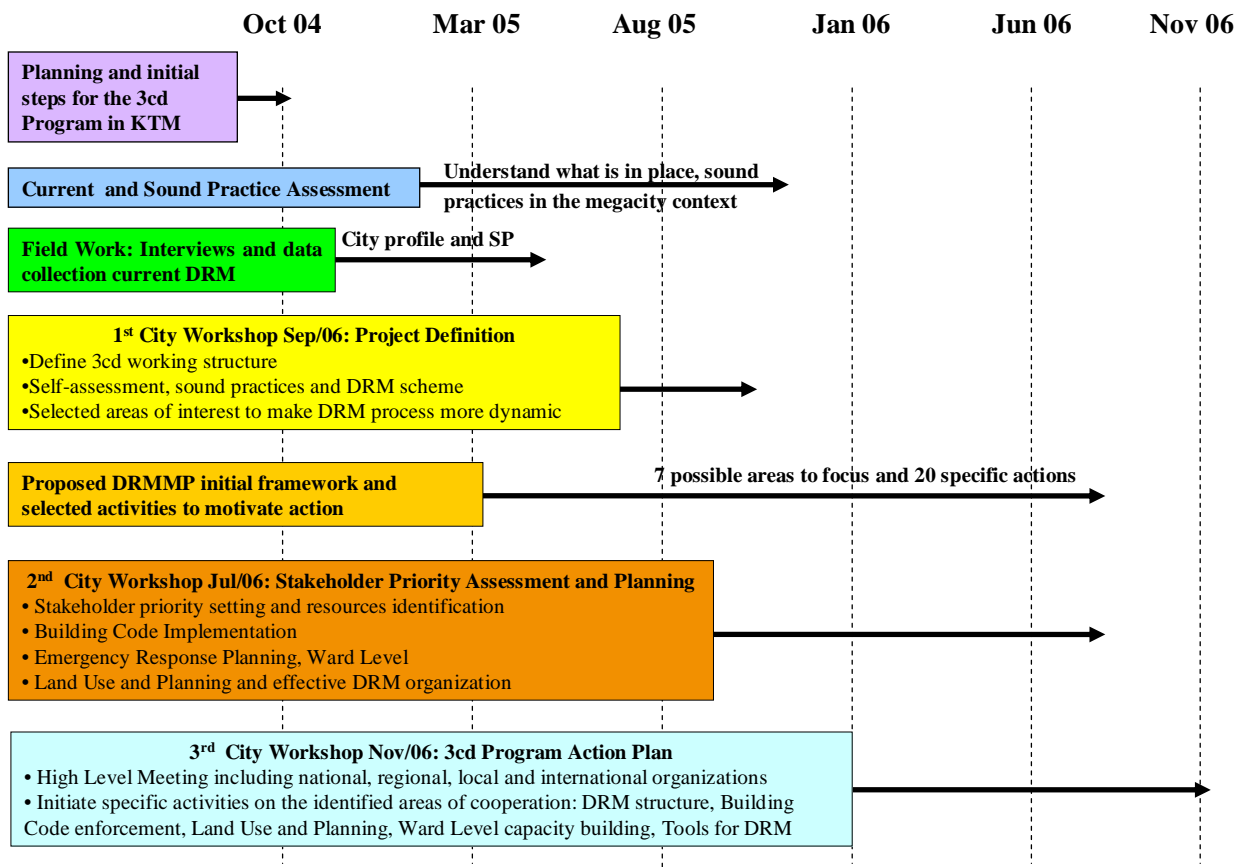


Figure 1. 3cd Program schedule in Kathmandu Valley

3. Summary of Deliberations and Proceedings

Three workshops and two discussion sessions were setup as landmarks for the progress of the five activities of the DRMMP, and the enhancement of the program design and implementation. These workshops also provided both, local stakeholders and the Program Implementation Team (PIT) opportunities for capacity building on group work, presentations, community-level interaction, intercultural related matters, and particularly provided a venue for exchange and trust building among involved parties.

3.1 Stakeholder Workshop

The first task was to identify primary stakeholder concerns and interests to assess implementation options for a comprehensive DRMMP embedded into locally feasible goals, objectives, and available resources. To set the appropriate context, Fouad Bendimerad, EMI chairman introduced general concepts of the 3cd Program philosophy and methodology, and stressed the need for this group of main city actors to be motivated and gain ownership to develop a safe city. Cities are used to do planning; 3cd methodology suggests that DRM should be seen as any other planning exercise in the city, making use of the machinery already in place. The mainstreaming model was presented along with the DRMMP concept which includes response and recovery; preparedness and awareness; mitigation and prevention action plans that require strong institutional capacity and commitment as well as a capacity building for disaster management.



A proposal developed by the 3cd Program included the 5 focused areas already identified and added two more for the participants' consideration. This comprehensive proposal served as the basis for the workshop discussions which included all together, twenty possible action items, see attachment No. 2 for details. Following the presentations, Amod Mani Dixit introduced the elements of the proposal and requested the participants to look into it in a realistic way, underlining what is doable and manageable with current resources. The participants were then clustered in 3 groups to discuss priorities, concerns and interests and were asked to identify the top five priorities for implementation.

An orientation panel integrated by Devendra Dongol head of the urban development department, Bhattarai Sadhu head of the social welfare department, Fouad Bendimerad EMI chairman, Kamal Kishore UNDP regional coordinator was moderated by Amod Dixit. The discussion was the open to the floor, participants and delegates from other national and international organizations had the opportunity to intervene. See attachment 3 for details on the discussion.

Stakeholder Workshop Concluding Remarks

1. KMC can mobilize the necessary resources to undertake the actions items identified, the assistance of the 3cd program PIT and NSET in order to allocate them properly would be important.
2. The integral proposal was seen as very relevant for KMC; nevertheless, the five areas already identified were ratified as the most relevant ones given current resources. Some specific actions were pointed out by the participants within those five areas of concentration, see attachment 2 for details:

- a. Develop and implement a new DRM framework for KMC with emphasis on the guidelines for DMCs at the ward level, item # 2 of the proposed list on attachment 2.
- b. Develop mechanisms and capabilities for building code implementation and enforcement and construction quality control, item #5.
- c. Develop city emergency response plans and guidance for planning, testing and exercising the plans, item #3.
- d. Community preparedness and livelihood enhancement through ward level emergency response and evacuation planning, item #4.
- e. Land use planning and control and incorporation of risk reduction in development plans, item #6.

3. Some legal and institutional arrangements need to be incorporated, for example there is not clear mandate and relationship between MOHA, the apex body in charge of DRM in Nepal, and KMC.
4. Both central departments dealing with DRM at KMC, urban planning and social welfare, expressed their commitment for a successful implementation process of initial DRMMP activities in the Kathmandu City.
5. Other participants emphasized the need to enhance the ward level participation and the organization of their disaster risk management committees that could drive bottom-up action.

The international organizations attending the workshop expressed their interest to support the initiative and drew attention to the character of the project that emphasizes the local government responsibility in the risk reduction process. It was also suggested that the project should be showcased in other cities since its methodology and comprehensiveness makes it easily expandable to other urban centers and regions.

3.2 Options for Building Code Implementation Workshop



This task is aimed at understanding current regulatory and operational state of affairs of the building code implementation and enforcement in Nepal and in the KTV, while identifying efforts done at the national level and successful processes being implemented in the municipalities of the Valley.

The international team brings in a perspective of the state of the art and current trends adopted by other megacities in the EMI network in order to appreciate the complexities of a practice that requires strong alliances between the public and private sector, with the inclusion of the universities, research organization, professional associations and particularly a well-informed end users that demand safe structures in all the stages starting with the design, construction, site supervision and habitability permit emission.

Fouad Bendimerad introduced basic elements of the 3cd program, such as the concept of the DRMMP and how the building code implementation relates to the efforts for risk reduction and mitigation. Jeannette Fernandez presented some options for building code implementation and enforcement drawn from the experience shown by the municipalities of Istanbul, Bogota and Mexico, indicating the different context and realities of each one of those cities, but emphasizing on the commonalities observed during frequent structure collapse and sever damage due to:

- Systematic code violations
- Lack of competency of professionals
- Lack of liability and accountability
- Ineffective control and supervision of design and construction
- Corruption

Mr. Amrit Man Tuladhar from the Department of Urban Development and Building Construction (DUDBC), presented the national strategy for building code implementation in Nepal highlighting the impact on the 1988, 6.7 Richter scale earthquake in Nepal which killed 600 people and the caused the collapse or severe damage of some 20000 building structures in the country. At present, 32 of the 58 municipalities in the country are making efforts to the request of BCI. Despite the efforts of the DUDBC to provide training and a capacity assessment process for the municipalities, there is still a long way ahead before the BCI becomes a reality in Nepal, particularly in those cities outside KTV. For the purpose of application of this standard, buildings in Nepal have been divided in four categories: 1) International State of Art, 2) Professionally Engineered Buildings, 3) Mandatory Rules of Thumb, 4) Guidelines for Remote Rural Buildings (Low Strength Masonry / Earthen Buildings)

Since 2003 when the Nepali Council of Ministers made the national building code obligatory for all government building constructions and *urged* municipal authorities to strengthen current building permit processes and compliance for all new constructions in urban areas, the Kathmandu Metropolitan City has taken some important steps to fully comply with this requirement. The National Building Code Implementation Committee comprised of six specialists and acting on voluntary basis was established in October 2005 and the Building Permit Section is responsible for the BCI in KMC. No ordinance for building code is currently available; the municipality is using a set of outdated bylaws at the moment. In any case nation-wide requirements for the first three above described categories are being enforced at KMC:

- International state of the art is applied for buildings having 6 floors and above, drawings and calculations need to be presented, to the recently established Review Committee is. Owner and constructor bear the responsibility.
- Professional engineered building category is applied to those structures having between 3-6 stories. Basic blue prints need to be submitted.
- Buildings under 3 floors, follow mandatory rule of thumb, guidelines are available

In addition, other procedures for design and field control have been established, for example:

- Three stages to issue construction and habitability permits: foundation level, upper structure completion and final inspection.
- Minimum size of the reinforced concrete columns has been set as 23X30 cm as an earthquake safety measure

Mr. Sainek Raj Singh, representative of the earthquake safety section of the Lalitpur Sub-Municipality, a city of 300,000 inhabitants, presented a comprehensive 10-point strategy for their successful BCI experience, which started in year 2002.

BOX 1: City of Lalitpur 10-point strategy for building code enforcement

1. **Awareness raising:** the message is loud and clear, “we live on an earthquake prone area, we have suffered the impact of earthquakes in the past, we can reduce the losses in future events”.
2. **Partnerships:** a BCI Committee was constituted with the participation of a broad number of representatives from different sectors of the community.
3. **Assistance and Supervision:** the earthquake safety section was established within the municipality to provide technical assistance to the users and customers and supervise the implementation process in the construction site and in house through design control and supervision.
4. **Orientation programs:** assisted by NSET and addressed to end users, such as the association of house owners to emphasize the benefits of using the building code
5. **Training modules:** for professionals engaged in the construction cycle, especially masons who are the primary source in the actual building construction, particularly of medium high rise buildings which mostly use load bearing wall systems. At present, the municipal roster of trained masons includes 85 certified professionals.
6. **Preparing building construction guidelines:** to be distributed among Lalitpur residents and construction workers. The cost of the publication has been so far covered entirely by the municipality in a effort to reach the biggest number of users.
7. **Public demonstration programs:** to show people the benefits of a sound construction. The shacking table demonstration and scaled models to show details of the foundation, beams and columns for confinement or wall to beam connections are displayed for people to visualize proper way of construction.
8. **Set up an approval process:** basic blueprints are revised by the Unit of Earthquake Safety, if the design is suitable, then the process of approval will start within the municipality. So far, 80% of the applications are being accepted in the municipality.
9. **Differentiate categories of construction:** For RC frame structures, the approval procedure is more complex, assistance in-situ is provided to ensure good quality of the mix.
10. **Provide incentives:** all this process has been implemented with “0” cost to the end user to promote the application of the guidelines while people understand the benefits for life and property protection.

To finalize the first part of the workshop, Mr. Ram Chandra Kandel made a presentation from NSET’s latest experience in the reconstruction process of the recent Pakistan earthquake, the message was clear and loud: “Construction system and materials used in both Pakistan and some areas in the Kathmandu Valley are very similar, therefore action should be taken now to avoid similar catastrophic events which included a high dead tall and huge loss of life”. The presentation included a short video containing moving remarks from children and other people who suffered from this new impact.

Following the initial plenary session, the participants were convened in two groups to decide on a strategy to accelerate the code implementation and enforcement process. Participants were invited to perform a SWOT analysis (Strengths, Weaknesses, Opportunities and Threats) of their sector in order to better identify a valid strategy. First group was integrated by representatives of KMC, most of them belonging to the two hosting departments, Urban Planning and Social Welfare. Members of the finance and legal department were also present and provided valuable insights. For details on this evaluation see attachment 4 at the end of this report. The strategy proposed by this group is summarized below, including a general time line:

1. Promote coordination among KMC's departments in charge of approving permits and supervision >>>
2. All KMC Registered Designers should be legally bonded for designing, supervision and monitoring >
 - a. Training on LUP, BC and Building Bylaws
 - b. Training on Structural analysis and design
 - c. Training in Construction Management and Quality Construction
 - d. Case Studies including field visits, experience sharing, urban assessment
3. Request full legal authority for all building constructions in KMC avoiding duplication with other regional/national organizations >>>
4. Incorporate in the legal framework incentive and punishment options >>>
5. Review the existing land use planning, building by laws, building code periodically >
6. Conduct Public awareness raising program through KMC media, publications, demonstrations regarding Safe Construction > **to** >>>

Key: > **Short Term** >>> **Long Term**

The second group was integrated by a wide range of city stakeholders, representatives from the national level, DUDBC, other municipalities in the Valley, delegates from professional associations, NGOs, and the education sector. Their suggested strategy is the following:

- Training and capacity building programs for decision /policy makers, update courses for professionals in the construction field
- Awareness raising activities for end users and use of case studies to inform people that implementing building code is not more expensive
- Promote networking among different national, regional and local organizations including NGOs/INGOs
- Mobilize internal and external resources and look for funding options

Finally, these strategies proposed by the participants were grouped into four main categories: 1) Legal and policy review, 2) Training and professional development programs, 3) Awareness raising, and 4) Networking. See details for the afternoon activity on the attachments.

3.3 Ward Level Response/Preparedness Workshop

Twenty two wards out of thirty five comprising Kathmandu Metropolitan City (KMC), attended an afternoon workshop which main purpose was to find out what have different wards accomplished in setting up their own Disaster Management Committees (DMCs), and get their direct insights on the resources needed to increase the number of wards that count on their own DMC, and to look for mechanisms to sustain this effort.



After an introductory presentation on the 3cd program and its objectives by Amod Dixit, from NSET, Antonio Fernandez from the EMI and 3cd PIT member, addressed some elements to improve community response and capacity to recover focusing on two elements: A Basic Plan and then an Emergency Plan. These presentations were followed by the experiences of wards 17 and 9, during the discussions, other wards such as No. 23 and 15 referred also to their learning process in integrating their DMCs as requested by KMC.

The participants were then clustered in four groups to reflect on the four key activities that could contribute to the said purpose of the workshop. Following each one of the discussion areas and the recommendations by the participants, details on the deliberations are provided on appendix five:

1. Policy and Institutions.

- a. Promote adoption of appropriate laws to incorporate DMCs structure and organization
- b. Define DMC member's positions, period and options for replacement
- c. Introduce funding sources and mechanisms for making use of them
- d. Inform the government authority

2. Rules, responsibilities, and rights.

Rules

- a. Public awareness should be done in many different ways such as workshops, radio programs and constitution of DMCs
- b. DMCs should be self sufficient and incorporate local resources for sustainability as each neighborhood has doctors, lawyers, engineers, masons; making use of these internal capabilities will provide a long term and sustained effort
- c. Promote cooperation between local institutions (i.e. mutual aid)
- d. Community should be informed of both, save and dangerous place

Responsibility

- a. Promote interpersonal relationships among neighbors to understand availability

- of specialized human resources within the ward who can be invited to participate
- b. Make people aware that they should rely on official and credible information after the disaster
- c. Teach neighbors that they are the sole source of help and assistance before any rescue team arrives to the site, so helping each other needs to be promoted
- d. Set up some qualified teams to collect data on building and lifelines damage and inform to the appropriate authority

Rights

- a. Provide IDs to the rescue team
- b. Assist the rescue teams by providing realistic information
- c. Funds need to be mobilized, therefore options to get funding need to be put in place

3. **Response and rescue plan.** Focus was two fold, what to do before the earthquake hits and what needs to take place once the impact has occurred:

Before:

- a. Carry out a risk assessment of the ward
- b. Look for partner organizations
- c. List out the name of possible stakeholders
- d. Identify available open spaces to handle the emergency
- e. Train a group of volunteers to work during the emergency

After:

- a. Provide with search and rescue capabilities to a group of volunteers
- b. Learn how to manage camps/tents during this period
- c. Understand alternatives and organization for water and food supply
- d. Make first kits available
- e. Have some basic training on psychological treatment and assistance

4. **Awareness and preparedness mechanisms.** This group worked under the strong believes that due to organizational weaknesses and lack of adequate resources, the local government and other national organizations will not be able to provide adequate assistance in case of a new earthquake impacts the KTV. Therefore, it is necessary for the communities to get ready and organized before hand. Key actions include:

- a. Advise every ward to constitute its own DMC, which should include individuals and institutions that are influential, the strength and sustainability should come from strong partnerships and alliances with different actors of the community.
- b. Training at the community level is needed, it should include first aid rescue and an awareness program for the communities.
- c. Need to identify safe places in their homes and other sites of the neighborhood where people can protect them selves.

Conclusions from the Ward Exercise

Only a few wards have initiated the process of setting up DMCs, KMC indicated its interest and support for the promotion of similar organizations in every ward.

A committee to follow up these initial deliberations was constituted by a representative from KMC, NSET, Red Cross and delegates of a few wards. This six to eight-member committee will produce a final draft to be revised and discussed among participants prior to finalizing it. Overall follow up of this workshop will be provided by KMC and NSET.

Mutual aid was mentioned as a good way to support the organization of community-based groups. Wards that have experience and capacity can help neighboring wards in setting up similar organizations.

When working at the community level it is very important to keep in mind that the facilitation and the discussion should take place in the local language in order to motivate a wider participation and exchange.

3.4 Discussion on Risk Reduction linked to Land Use and Planning



On July 5, Fouad Bendimerad, Hossein Khalali, Jim Buika and Ram Chandra Kandel were invited to attend a special session presided by Mr. Devendra Dongol, head of the Urban Planning Department and the Consultants in charge of executing the studies for the project. After an exchange of information, both parties got a common understanding of the scopes of each project and the options for a fruitful cooperation that will ultimately benefit the city.

Kathmandu Metropolitan City is currently undertaking a review and update of its land use plans. Initial phase which is due to be completed in November 2006, consists of mapping existing land use for the five municipalities comprising the Kathmandu Valley, and establishing some general guidelines for future development. The second phase will incorporate special studies including hazards and disaster management. Mr Dongol the Head of the Urban Planning Department mentioned that KMC was to have help from the City of Stuttgart in Germany for the second phase. He also requested the assistance of the 3cd Team in the specific area of hazards and disaster management.

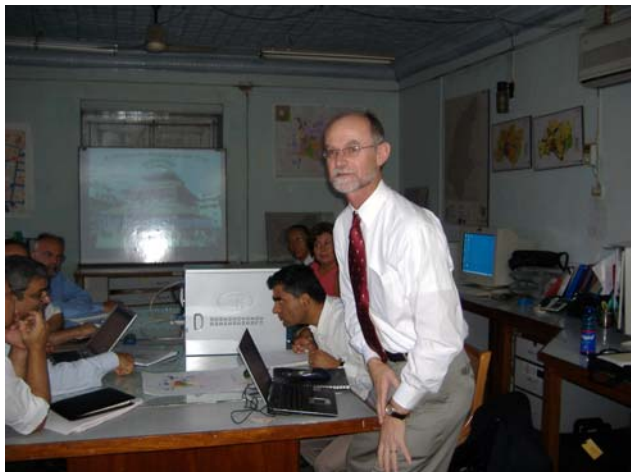
The 3cd Program is in position of adding value to this process in Kathmandu by bringing recent experiences from other EMI city members such as Metro Manila and by promoting the use of two of the most relevant tools developed by the 3cd Program. Both,

the internet based map viewer and the land use and planning training modules are two powerful tools that will nicely go together with the course of action taken by the Kathmandu Metropolitan City. The Disaster Risk Management Knowledge Base will be complementary as a good resource for specific case studies.

Agreements after this fruitful meeting included:

1. This is a unique opportunity to influence future development and to reduce risk in the Valley, thus the incorporation of this item in the DRMMP is necessary.
2. Experts from the 3rd Team will review the terms of reference for Phase 2 and will participate with the experts from the city of Stuttgart in supporting the Urban Planning Department and its local consultants.
3. The Land Use and Planning training module that EMI is currently developing will be offered to planners in KTV in future field trips.

3.5 Geographic Information Systems Stakeholder Workshop, July 6



A first GIS Stakeholders Workshop was conducted at NSET for the purpose of bringing together representatives from those organizations with strong GIS capabilities in the Kathmandu Valley. Fifteen representatives from ten municipal, regional, and national GIS departments and other independent organizations were invited to attend a three-hour structured discussion on GIS's role in disaster risk reduction planning.

An action agenda was presented by Mr. Jim Buika, Pacific Disaster Center, and Ganesh Jimée, NSET, Project Local Investigator, to structure a data collection and sharing agreement in order to develop a GIS-based risk and vulnerability assessment for Kathmandu.

At the end of the deliberations concurrence was reached to constitute an Information and Communications Technology (ICT) Focus Group which will be coordinated by Ganesh Jimée from NSET and will have the opportunity to exchange and communicate through a yahoo e-group. Data collection to understand resources and GIS capabilities in the Valley will be undertaken by the participants based on standardized data forms prepared by PDC.

The ICT Focus Group is expected to provide feedback during review and implementation of risk communications tools and strategies. A data gap analysis will be prepared by the Focus Group coordinator to be discussed within the group during next meeting expected in November 2006.

Attachments

**Individual Workshops Reports
Evaluation Forms
Proposed Field Trip Agenda
DRRMP 3cd Program Proposal for KTV
Ward-Level Simple Emergency Plan Model
Organizing for Effective DRM at the City Level**

Individual Workshops Reports

Proceedings **Workshop Options for Building Code Implementation & Enforcement**

Hosted by the National Society for Earthquake Technology-Nepal
and the Kathmandu Metropolitan City

July 5, 2006
08:30 AM – 5:00 PM

This section is related to the activities conducted just after the general presentations on this one-day workshop. The purpose of the small group discussion was to identify a strategy for making the building code and its enforcement a viable options for the city by identifying main actors and their roles, as well as their strengths that could be used in benefit of the project and/or its weaknesses that need to be paid attention for improvement.

The participants were divided into two groups of about 15 members each. One group consisted of local government officers from Kathmandu Metropolitan City or KMC (Group 1), and the other representing professional groups (Group 2). Each group had a discussion leader and a recorder. The structured discussion consisted of three steps, as follows:

Step 1. Identify the strengths, weaknesses, opportunities and threats that pertain to your particular group or sector.

Step 2. Identify actions by matching strengths and weaknesses to deal with opportunities and threats.

Step 3. Refine the actions into strategies by:

- grouping those which can be associated or linked
- identify who might carry them out
- prioritize them identify which are short-term (do-able with current resources), mid-term (require coordination with other sectors), and long-term (needing more resources).

The groups drafted a list of actions which they can undertake.

A.L. Fernandez who facilitated the SWOT exercise consolidated the identified actions into four strategies for building code implementation and enforcement:

1. Legal and policy review
2. Training and professional development programs
3. Awareness raising
4. Networking

The outputs are as follows. They consist of the strengths, weaknesses, opportunities and threats (SWOTs) pertinent to their sector as identified by the participants. Then these are followed by actions addressing those SWOTs.

Group 1. Kathmandu Metropolitan City The group consisted of Kumari, Ram Adhikari, Bijay, Ravindra, Surendra, Rudra, Basanta, Manoj, Kamal, Ram Thapa, Pradip, Hari Bahadur and Jeannette Fernandez

Strengths

1. Permanent BCI committee
2. Municipal radio and TV station
municipal radio and TV station for awareness and capacity building
3. Building bylaws and code
4. Skilled human resources
5. KMC's strong commitment to implement the BC
6. Enough financial resources available at KMC
7. Citizens charter for services provided by the municipality
8. Public complaint office (How effective, not yet clear)

Weaknesses

1. Not effective supervision in the construction sites
2. 50% of the technical personal in KMC needs training
3. Lack of adequate coordination and supervision among departments within KMC and other institutions
4. Lack of clear mechanisms for realistic implementation
5. Insufficient legal authority to take immediate legal action against those who don't comply to the standards
6. Media not used effectively
7. Quality Control not in KMC hands (const. materials)

Opportunities

1. National Government request for BCI process sets a framework for action
2. National/International interest NSET EMI-UNDP-OFDA-USAID
3. More than 500 registered professionals at KMC
4. Public interest in supporting and learning about the process (How is it measured?)

Threats

1. Political instability
2. Violation of the building code and bylaws (They by-pass the regulations)
3. Existing buildings need to be retrofitted but there is no understanding on how to face such a demanding process
4. Most of the land has been already occupied in a very un-planned manner

| Strategies | Period |
|---|---------------|
| 1. Promote coordination among KMC's departments in charge of approving permits and supervision (Merge them?) | LT |
| 2. All KMC technical staff should be legally bonded for designing, supervision and monitoring <ul style="list-style-type: none"> • Training on land use planning, building code and building bylaws • Training on structural analysis and design • Training in construction management and quality construction • Case studies including field visits, experience sharing, urban assessment | ST |
| 3. Request full legal authority for all building constructions in KMC avoiding duplication with other regional/national organizations | LT |
| 4. Incorporate incentive and punishment options in the legal framework | LT |
| 5. Review the existing land use planning, building by laws, building code periodically | ST |
| 6. Conduct Public awareness raising program through KMC media, publications, demonstrations regarding safe construction | ST to LT |

Group 2. Professionals (non-KMC)

Strengths

- Building code available
- Implementation Strategy of building code is available
- License provision for Professional engineers (Nepal Engineering Council)
- Institutes – DUDBC, NSET, IOE etc. works for Awareness, Training, Networking (national & international)
- Professional Organizations like NEA SONA etc.

Opportunities

- Growing sense of need among international circle
- Large number of upcoming construction
- Develop incentive system for retrofitting of building
- Over sight committee including professional organization for quality control

Weaknesses

Lack of

- Information sharing
- Funding
- Professional recognition
- Professional Liability Law
- Quality Assurance System *ex. Workmanship, Building Materials*
- No Priority to strength aspects of building for people, policy makers, and even professionals.
- Very cumbersome permit/license process
- Very high tax building permit without any rational

Threats

- Political instability & Popular decision
- Professional categorization
- Fatalism

Strategies

Actions (S-O)

- Train more people
- More awareness raising activities
- Networking of NGOs/INGOs

Actions (S-T)

- International Programs for decision /policy makers

Actions (W-O)

- Mobilize internal and external sources for resource mobilization
- Mobilize International institutions/organizations for funding

Actions (W-T)

- Aware people to reduce fatalism
- Aware people by case studies that implementing building code is not expensive
- Update professionals for improving their capacity

Prepared by Antonio Fernandez,

Proceedings
Geographic Information Systems Stakeholder Workshop

Hosted by the National Society for Earthquake Technology-Nepal
and the Kathmandu Metropolitan City

July 6, 2006
10:30 AM – 1:30 PM

1. Introduction

On July 6, 2006, Jim Buika, Senior Manager, Pacific Disaster Center, USA and Ganesh Jimme, Geographer, NSET-Nepal, Kathmandu, Nepal, conducted the first *Geographic Information Systems Stakeholder Workshop* for 15 GIS representatives representing 10 municipality, regional, and national GIS departments and organizations. An participant list is attached.

Workshop Purpose. The purpose of the workshop was to:

- **Bring together** key GIS organizations
- **Introduce the project**, personnel, and 3cd Program to GIS teams
- **Understand GIS's role** in disaster risk reduction planning
- **Communicate the project goal** to explore together developing a *GIS-based Risk and Vulnerability Assessment for Kathmandu*
- **Complete the meeting objective** to develop a realistic data collection plan and discuss sharing of data for risk planning purposes and
- **Create on outcome to continue to communicate** via creation of a ***Information & Communications Technology Focus Group*** to support the project.

2. Agenda

3cd Program and Project Overview. To open the meeting, Jim Buika thanked all the representatives for their support and participation and provided:

- An introduction to the PDC and background on the project and the 3cd Program
- Examples of GIS Applications for Disaster Risk Management, including the concepts of GIS-based Risk and Vulnerability Assessment, including Land-use planning and building code examples, and an example of an Internet-based GIS Map Viewer for risk communications from Metro Manila, Philippines.

Data Inventory Working Session. Next, the GIS representatives completed a Data Inventory Working Session, Preliminary Data Gap Analysis and proposed Action Plan. The group agreed to identify, collect, and integrate key GIS data sets available in Kathmandu for disaster risk management purposes. Jim Buika distributed two handouts for discussion which listed priority data sets for collection and a Data List with desired detailed attributes and required formats. Jim Buika provided an example of the data sets collected to create the Metro Manila Map Viewer (www.pdc.org/metromanila, (User ID: mmmv, Password, mmmv123). Finally, the group collectively reviewed PDC's initial list of available Kathmandu GIS resources and expanded the initial list, providing additional points of contact.

Data Gap Analysis and Action Plan. Each of the organizations present agreed to provide available data to the project. NSET will collect the data set and transmit the data to PDC. PDC noted it would honor any data agreements required with departments to transmit data. An

Action Plan for data collection is presented below in Concluding Remarks and Next Steps.

Discussion to Create a Kathmandu ICT Focus Group. Finally, the group discussed the benefits of creating a Kathmandu Information and Communications Technology (ICT) Focus Group to complete the Data Collection Action Plan and to provide critical local stakeholder feedback to the development of a *GIS-based Risk and Vulnerability Assessment for Kathmandu*. Through an ICT Focus Group, PDC, EMI, NSET, and KMC will work to:

- Strengthen available GIS resources to Kathmandu and thus, the project
- Define current information and communication technologies
- Deploy risk communications tools and technologies to support disaster risk management efforts in Kathmandu.

ICT Focus Group Benefits. The workshop concluded by discussing the benefits of creating an ICT Focus Group, which include:

- Continuing education of GIS teams in Kathmandu
- Defining opportunities for international collaboration
- Sharing important data resources amongst each other
- Understanding GIS User Groups and expanding Local User Groups
- Defining gaps in data resources and Information and Communications Technology
- Strengthening visibility of GIS and demonstrating the power of GIS to decision makers

3. Concluding Remarks and Next Steps

Action Plan. The group agreed on an Action Plan with the following data collection short-term process and next steps:

- **ICT Focus Group.** Have agreed, as possible, to all participate as members of the Kathmandu 3cd Project ICT Focus Group and start discussion within the Focus Group via NSET.
- **Point-of-Contact for ICT Focus Group.** Ganesh Jimée, NSET, has been designated Point of Contact for coordinating collection of required project data sets from GIS organizations on behalf of PDC, EMI, KMC, and the GIS teams via ICT Focus Group:
- **Contacts Database.** Ganesh Jimée will transmit a Contacts Database to PDC and distribute to ICT Focus Group members.
- **Data collection.** Workshop participants will provide input on available data, resources, as well as report on any collection procedures and issues to Ganesh Jimée, NSET by July 31.
- **Data Gap Analysis Report.** By August 15, Ganesh Jimée will write a Data Gap Analysis Report and finalize a strategy with PDC for obtaining desired data sets.
- **ICT Focus Group Yahoo Chat Group.** Jim Buika will work with the EMI Secretariat to set up a Yahoo chat group by July 31 as a short-term communications tool for the ICT Focus Group.
- **ICT Survey.** ICIMOD to complete organization ICT Survey for PDC. Jim Buika and Ganesh Jimée to continue communications with ICIMOD.
- **GIS Resources.** ICT Focus Group, via POC, will continue to identify additional GIS personnel and other relevant data resources for the project
- **Strategic Input to Project.** ICT Focus Group to provide feedback as requested by NSET to review and implement risk communications strategies
- **Next Formal Meeting.** Agreed to meet formally to continue discussions and review strategies during next 3cd Team field trip during week of November 13, 2006.

Prepared by Jim Buika

Proceedings

Ward Level Emergency Response / Preparedness Planning Session

July 6, 2006
1:30 PM – 5:30 PM

Participants: Ward level Disaster Management Committee of different wards of KMC, Kritipur and ward secretary from KMC wards, representative from Pokhara Municipality, representative UNDP, Nepal

General

The workshop was attended by 55 different representatives from KMC Ward DMC and other ward secretaries with good participation in discussion. Initially Local Project manager for 3cd Mr. Ram Chandra Kandel open the workshop focusing on the need of this workshop and later Mr. Amod Mani Dixit Ex. Director and Local Investigator for the 3cd programme highlighted on the issues to be discussed in the workshop. Presentation from ward 17 DMC of Kathmandu and 19 ward DMC of Kritipur on their experiences. Later Mr. Tony Fernandez from EMI presented about the outline of the ward level DMC and then the participants were divided into four groups to discuss in different four agendas.

OUTCOMES OF THE GROUP WORK

GROUP I

Topic for the discussion: For the effective ward level Disaster management, what is the appropriate structure of DMC and what type of rules and regulation required for that? Resources required for that?

Formations of regulation for conducting ward level relief and rescue committee
Under the regulation develop an executive committee

- a) Inclusion of ward chairman, ward police, local medical representative, Engineer, college, school community police
- b) Assign posts for them on the basis of their knowledge
- c) Rotation wise change of their leadership and responsibility
- d) Develop a mechanism to reach the area immediately after disaster
- e) As far as possible try to prevent such disaster to occur
- f) Inform the respective institutions if any works are being carried out against the rules and regulations.
- g) Develop funds for such activities

Group Members

| | |
|------------------------|------------------|
| Jayadev Ghimire | KMC Ward No. 14 |
| Dhan Bahadur Maharjan | DMC Ward No 18 |
| Gita Maghaya | DMC Ward No. 17 |
| Shiva Narayan Shrestha | KMC Ward No. 27 |
| Krishna Raj Bista | KMC Ward No. 4 |
| Bibhuti Man Singh | DMC Ward No . 17 |

GROUP II

Topic for the discussion: What will be the role, responsibility and Authority of Ward Level Disaster Management committee? Resources required for that?

Role

- 1) Create public awareness for minimizing disaster
- 2) Identification and use of locally available materials and resources
- 3) Opt Towards self sustainability
- 4) Identification of safe places for emergencies
- 5) Work in co-ordination with other local institutions

Responsibility

Work towards public welfare without the feeling of rage and discrimination but with the feeling of humanity (Humanity Express)

Inform the real facts and figures to the responsible institutions as soon as possible (Actual communication and realistic information).

Get involved in the rescue operation by using one's knowledge and skills gained even before the arrival of responsible authority (Proper utilization of available resources)

If possible get the information about the damage and inform the responsible bodies (Data collection and communication)

Authority

As an authorized and responsible organization towards disaster management

Authority of collection and utilization of materials and resources.

GROUP III

Topic for the discussion: What should be done by DMC for rescue and relief? Resources required for that?

For rescue and relief operations

- 1) Preparedness
- 2) Conduct Ward level Vulnerability Capacity Assessment (VCA)
- 3) Safe storage of Relief and rescue equipments
- 4) Maintain good relation with (Disaster preparedness Network) DP Net partners
- 5) Collect names of concerned ones
- 6) Identification of places for evacuation
- 7) Conduct disaster management trainings
- 8) Preparation for the Volunteers
- 9) Develop information technology

After Disaster

Alarm / warning

Search and rescue

Evacuation

First aid

Camp management
Relief materials distribution
Water supply
Medical treatment
psychological treatment
Réhabilitation/ reconstruction

Equipments and Resources

Fire brigade – by Municipality and NGO
Ambulance, stretchers, tent,
Relief materials
Medical equipments
Water supply carrying vehicles
Water supply system equipments
Drainage equipments
Toilet management equipments
Rescue/search equipments
Fire fighting equipments
Life jackets, medical post, ware house

Group 3 Members

Anil Maharjan
Raja ram,
Kishore Shrestha ward No. 2
Govinda Acharaya KMC 29
Patana Dangol KMC 16
Pramod adhhikari 15 KMC
Ram ji

GROUP IV

Topic for the discussion: What DMC should do for the disaster (Earthquake) preparedness ? Resources required for that?

Works to be done by ward level disaster management committee for earthquake preparedness

- 1) Formation of ward level disaster management committee
Method- involvement of ward level clubs
International organizations
Respected and talented people of the ward
Representatives form ward office

- 2) Trainings on disaster management
as First Aid

Management trainings such as- public awareness training, raising awareness in schools, clubs, and community
Identification of areas where the risk level is high
Training on rescue

- 3) Formation of sub – committees on
 - First aid
 - Disaster management
 - Rescue operation
- 4) Arrangement of space/ room for the office and store house of disaster management committee
- 5) Relief and rescue equipments – tent, blankets, clothes, arrangement of drinking water, search and rescue equipments

Group IV members

| | |
|-----------------------|-------------------------------|
| Gokarna Bahadur Mocha | Pokhara sub metropolitan city |
| Sarad Babu Pandey | KMC Ward No. 2 |
| Gita Kandel | KMC Ward No. 5 |
| Sudarshan Sharma | KMC Ward No. 29 |
| Toya Neupane | KMC Ward No. 16 |
| Gopal Shrestha | KMC Ward No. 2 |
| Bhima Magaya | DMC Ward No. 17 |

After the discussion on group, presentation was done by each group. Later on in conclusion it was decided to form a working committee to formalize all the documents and made appropriate document for ward level disaster management committee, and brings it in discussion before approval from Municipal body so that every partnering institution can contribute on the document.

Following Members were selected after discussion in the Workshop.

Committee members-

- | | |
|----------------------------|---------------------------------------|
| 1) Sadharam Bhattarai | Chief Welfare Section KMC,Coordinator |
| 2) Surya Lal Maharjun | KMC Ward No. 2,Member |
| 3) Dhana Bahadur Maharjun | KMC Ward No 18,Member |
| 4) Gopal Shrestha | KMC Ward No. 2,Member |
| 5) Bibhuti Man Singh | KMC Ward No. 17,Member |
| 6) Nepal Red Cross Society | Kathmandu ,Member |
| 7) NSET | Member |

Prepared by Ram Chandra Kandel

Evaluation Forms

RESULTS OF WORKSHOP EVALUATION DONE DURING THE SECOND FIELD TRIP TO KATHMANDU

I. Results of the Stakeholder Workshop (July 4, 2006) Evaluation

A. Weighted scores on level of satisfaction

| | | N=14 |
|---|---|----------------|
| | | Weighted score |
| 1 | Satisfaction about presentations | 4.07 |
| 2 | Satisfaction about the discussion | 4.00 |
| 3 | Personally worthwhile | 4.46 |
| 4 | Worthwhile for the institution | 4.54 |
| 5 | Relevance to work | 3.62 |
| 6 | Willingness to work together towards the goal of 3cd | 4.38 |

B. Ranking of focus areas. The areas of focus were ranked as follows:

| Area of focus | Rank |
|---|------|
| Strengthen legal and institutional arrangements for disaster risk management | 3 |
| Develop and implement new disaster risk management framework for KMC | 4 |
| Develop city emergency response plan and guidance for planning, testing and exercising the plans | 5 |
| Strengthen community preparedness and livelihood enhancement | 2 |
| Develop mechanism and capability for building code implementation, enforcement and construction quality control | 1 |
| Strengthen land use planning and control; incorporate risk reduction in development plans | 6 |
| Develop knowledge and technology on risk assessment and warning systems through research and education | 7 |

C. Personal role (in response to the question: Which area of focus do you see yourself and/or your institution playing a role? Described how you can play this role.)

- Organized a DMC (disaster management committee) in my ward, collect some resources and provide a paper to the local people about earthquake disaster – a member of a Kathmandu district committee
- Ward 2 DMC - a member of Ward 2 DMC
- At Ward 2 level (Lazimpat, inner core area). We had already done various programming for local people
- To develop and identify the new land use plan for better settlement and to control the disaster management to improve and control the implementation Act 2050 – a member of the Kathmandu Valley Town Development Implementation Committee
- Kathmandu Valley areas of focus point. Awareness Programme in peoples – a member of Peoples' Nepal
- Through the policy change and community preparedness – a Nepal Sadbhairana Party (Anandi Devi) member

- My institution is playing role in enforcement of Nepal National Building Code (NBC) throughout the country and I am working for this area since 1992 when the NBC was passed. – a employee of the Department of Urban Development and Building Construction (DUPBC)
- Develop city emergency response plan and guidance for planning – a doctor from T.V. Teaching Hospital

D. Topics of interest (in response to the question: What specific topics would you want to know in addition to what your heard today?)

- About the current situation of earthquake in Kathmandu Valley of that area about first aid, disaster management, search and rescue. We had formulated programme like door to door programme and given information about the earthquake. We are going to give knowledge about earthquake situation of Nepal, what to do before, during and after the earthquake take place to different schools. We are searching for donor to conduct this programme. – a Ward 2 DMC member
- Primary knowledge of earthquake – a member of Peoples' Nepal.
- I want to know about e-based Map Viewer; about KMC. – a employee of the Department of Urban Development and Building Construction (DUPBC)
- Emergency response plan and warning system through research – a doctor from T.V. Teaching Hospital

E. Preferred means of communication

Eight out of the 14 respondents preferred communication by mobile phone best, followed by telephone with 3, and e-mail with 1. No respondent checked fax and post as their most preferred means of communication.

II. Results of the evaluation of the Workshop/Seminar on Options for Building Code Implementation and Enforcement (July 5, 2006)

A. Weighted scores (on achievement of objectives, level of satisfaction)

| | | N=17 |
|---|---|----------------|
| | | Weighted score |
| 1 | To understand the structure and procedures put in place by the KMC and LSMC to enforce the use of the building code | 3.94 |
| 2 | To identify major roadblocks and impediments to compliance | 3.6 |
| 3 | To discuss elements of a strategy that promotes the use of the building code and its enforcement by local authorities | 4.13 |
| 4 | To show experiences from other cities in the EMI global network. | 3.79 |
| 5 | Clear and realistic objectives | 4.06 |
| 6 | Satisfaction about the presentations | 4.00 |
| 7 | Satisfaction about the group discussion | 4.00 |
| 8 | Duration and scheduling of different activities | 3.71 |

| | | |
|----|--------------------------------|------|
| 9 | Personally worthwhile | 4.25 |
| 10 | Worthwhile for the institution | 4.06 |
| 11 | Relevance to work | 4.35 |
| 12 | Willingness to work | 4.06 |

B. Topics of interest (in response to the question: What specific topics would you want to know in addition to what your heard today?)

- Disaster risk management plan outside the Kathmandu Valley as well. There is an acute need of disseminating the knowledge and information across the growing towns of the country. BECAUSE there should be a holistic approach all over the country as a whole.
- It would be better if we could involve some government officials in policy levels so that we would have their views regarding this matter. – an NSET employee
- Socio-economic and legal provision for the technology transfer at the grassroots level, i.e. to the masons who really translate the deign and drawings down to the ground and make the fruits of building code to the general public. – and NSET employee
- Retrofitting of old buildings and structural analysis and design (in order) to reduce risk during future earthquake. Uplift professionalism. – IOF, Western Region Camphus, Pokhara
- Disaster management (because) management play an important role in many sectors, like business, industry, organizations, etc. – a KMC employee
- I want to perfect DRMMMP practice of the world because of improving of our city. – a KMC employee
- Challenges in enforcing and implementing the building code and bylaws. (Because) It was legal procedure discussed today briefly, I think, but for the professionals the program should be lengthened. – a KMC employee
- Building code implementation and structure analysis (because) it belongs to my profession and my work also. – a KMC employee
- Being a civil engineer and professional of disaster management, the workshop was interesting for me. But I could participate only in few sessions. I am satisfied and have interest to learn more on implementation of building code. – a UNDP/CBDMP employee
- Disaster preparedness and response plan and EMI. Because of EMI is important for the all municipalities. – an employee of Lalipur Sub-Metropolitan City
- I want to hear about e-based Map Viewer for Kathmandu Municipality going to prepared by EMI, PDC. Bevaue I am very excited to know about Map Viewer of Marikina City, Philippines. I am very much interested in GIS works for KTM. – an officer from the Department of Urban Development and Building Construction
- Review and updating of building code. – an staff member of NSET
- Professional participation in preparation for by-laws. (Because) This by-laws would be applicable to the whole nation following the National Building Code (including KMC, LMC, other municipalities, VDC, etc.). – a member of SONA

C. Comments from the respondents

- (1) Very useful workshop. I had a great opportunity to share the experiences from different professionals. Definitely will also help us in achieving our goal which is ultimately to make our communities safer. The use and implementation of building code is one of the steps in our long road map. – an NSET employee
- (2) But I'm interested to know that how the management play role at the time of disaster by natural calamities time Earthquake. And also have to manage for disaster. – a KMC employee
- (3) The goal of this workshop is achieved if the strategies found from the discussion would go in an action plan. As we have seen that we have got enough work strength but we could not utilize it appropriately. It will be more effective if we build pressure group as a conclusion of this workshop. Thank you. – a KMC employee
- (4) Short timing, long knowledge. So, satisfied. – a KMC employee
- (5) One and technical matter regarding design perspectives also should be included. Group discussion and strategic planning was my interesting part but we hope that the proper implementation of strategies both long term and short term. As written there, partners should be informed about the workshop. We hope for improvement of strategies to be implemented from organizer's side. Thanks for your invitation. - a KMC employee
- (6) Building code implementation and land use planning is very essential and important especially for KMC where urban development is going haphazardly. And KMC technical staff and other managers related to disaster management. – a KMC employee
- (7) We need close coordination of INGO like EMI, PDC about initiatives for earthquake safety in Kathmandu City. Five-point strategy was very interesting and very useful for KMC to implement building code. Building enforcement should be done for other municipalities and so similar workshops should be organized in other municipalities. – an officer from the Department of Urban Development and Building Construction
- (8) To issues/topics to be discussed in the workshop should have been conveyed to the participants in advance so I would have prepared for it. – an NSET staff member
- (9) Sharing experiences is good. But slide materials should be supplied to the participants - a member of SONA.

D. Preferred means of communication

Six out of 17 selected e-mail as the most preferred means of communication. Tying in the second place are telephone and mobile phone, each selected by three out of the 17 respondents. Only 1 selected e-mail as most preferred. None selected fax and post.

Prepared by Antonio L. Fernandez