TODAY'S IMPERATIVE: CAPACITY BUILDING FOR SAFER COMMUNITIES

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Abstract

This paper focuses on Capacity Building that recognizes the importance of decreasing vulnerability by increasing the capacity. As such, this paper aims to dissect the factors involved in capacity building, define its focus, and provide strategies for urban disasters mitigation in the context of capacity building.

Prologue

The Influx of Urbanization: A Mirror of Neglected Capacities from the Country Sides

Lure of The Cities

The increasing number of persons migrating from rural areas to the urban centers, has been threatening the fragile balance of the world's cities.

These migrations are commonly triggered by the expectation that the city will provide better opportunities. However, in most cases these expectations are not met as the urban centers has not considered this in their urban planning. Understandably shelters and social services for the newcomers are not in the agenda of the planners. They could not even cope with the current number of squatters, how then would they consider the new influx of migrants.

Problems In The Countryside

Problems in the countryside are mostly the results of a feudal farming system, conversion of agricultural lands, monopoly of landholdings, chronic crop losses, unavailability of source of living, loss of livelihood, internal conflict, and the prospect of a better standard of living in the urban centers.

Urban migrants from the rural areas make up the most vulnerable group in an urban disaster scenario. Living in cramp, sometimes-improvised shelters, without the basic health necessities like clean water and latrines, these migrants are prone to hazards and disaster risks as well as exploitation of the dregs of the society – prostitution and child labor.

However, policy makers usually approach these problems superficially. They do not necessarily dissect the causes of migration but rather count and be concerned of the number of people crowding the city. These migrants – people - merely become statistics, figures in the spiraling trend of urbanization. What we oftentimes fail to see is that these are living human beings capable of doing things and tending for themselves in order to survive. Migrating to the urban center may be a coping mechanism to escape a more dismal situation in the rural areas.

People who migrate to urban centers bring with them their inherent skills, indigenous knowledge of their crafts and the intrinsic instinct of survival. These are capabilities, which make them resilient in the face of hardship in a hostile environment of an urban center.

Urbanization is occurring at its fastest pace not in the developed nations of the world, who are better equipped to deal with it, but in the developing world. In 1950, 17.8% of the population of the developing world lived in cities. Fifty years later, that number more than doubled to 40.5%. By the year 2030, that percentage is estimated to reach to almost sixty percent. Just four more years will see the majority of the world's population living in cities (The Population Institute).

Society is alarmed of the urbanization in the developing countries. Responses to these are varied; one such response is focusing on the culture of safety - urban disaster mitigation. In a scenario involving the numbers game – number of dead, wounded, missing, cost of damage to property; focus is provided to

mitigate the impact of hazard events happening in a vastly populated area and protecting the infrastructures both physical and systemic.

However, we mostly fail to see the root cause of urbanization – the migration of people from the countryside. To objectively mitigate a disaster from happening in a crowded urban center, we should look at the multiple realities involved – that is to address the causes of migration and provide the risk management needs of urban centers as well as the rural areas.

Along this process of mitigation, reducing vulnerabilities and building capacities becomes a focal point for developing strategies. Cognizant of the importance of decreasing vulnerability by increasing the capacity, this paper aims to dissect the factors involved in capacity building, define its focus, and provide strategies for urban disasters mitigation in the context of capacity building.

Capacity building, in the context of the disaster risk management paradigm, generally encompasses the factors of capability, which translates into a coping mechanism, which in turn makes a vulnerable group resilient. To understand capacity building as part of the disaster risk management process, we must examine the factors it encompasses.

Capability is differentiated from capacity as it basically refers to the inherent skills and knowledge of an individual or the collective ability of a community to respond to stimuli.

Coping Mechanisms. These are collective mechanisms derived from internal social systems and structures present in a community, and strategies adopted by them to deal with adverse and stressful situations. Coping mechanisms are vital component of social and economic development, survival of any society and prevalent in all stages of life to resource poor communities in dealing with difficult and challenging situations. In facing hazardous situations these mechanisms become more prominent and visible (ADPC CBDM Workbook).

Understanding these basic factors in the capacity building process – capability and coping mechanisms, will provide content on the design and implementation of capacity building initiatives. Simply meant, capacity building is identifying, developing and enhancing the existing capabilities and coping mechanisms of communities. Often, however, this is neglected.
In the light of the development efforts extended to countries in the region, capacity building remains to be in the forefront of the development process. Interestingly, most of the project or programs aimed at increasing the capacity of these countries have no sustainable mechanisms to consolidate the gains it has achieved by far. Oftentimes, some programs end up spending precious development funds into training programs and policy advocacy. Others funnel funds into government structures aiming to increase the capacity of these institutions to respond to the needs of the country.

With this development picture, a constant debate resounds on the appropriateness of the capacity building responses, which in effect makes a jigsaw puzzle out of the development efforts, instead of making cohesion.

In the context of total disaster risk management, a concept on capacity building, which encompasses both the development process and sustainable development with particular emphasis on sustainable human development, sustainable use of resources, and sustainable livelihood options, has to be identified and defined by all stakeholders.

To reach this objective, we must examine the existing perspectives on what capacity building is and the initiatives introduced.

A Mélange of Paradigms: Capacity Building From Different Perspectives

The Capitalist. Capacity building is anchored on the amount of investments, which stimulates the growth of the Gross National Products, which in turn provides more jobs and thus alleviates poverty and increases capacity.

The Sociologist. Capacity building must focused on enabling people's organization, building primarily on their current capacity.

The Politician. Capacity building rest on the institutionalization of total disaster risk management into the public policy framework.

The Common People. Listen to our needs and provide it.

These are among the most common understanding of capacity building from the major actors that influence the stature of our society.

A comprehensive understanding of the capacity building as defined by the United Nation's Agenda 21 states, "Specifically, capacity building encompasses the country's human, scientific, technological, organizational, institutional and resource capabilities. A fundamental goal of capacity building is to enhance the ability to evaluate and address the crucial questions related to policy choices and modes of implementation among development options, based on an understanding of environment potentials and limits and of needs perceived by the people of the country concerned." (Chapter 37, UNCED, 1992)

This translates simply to building from the existing capabilities present in a given community. However, when viewed from different perspectives, a concoction of multiple ideas for a specific reality complicates things.

There are inherent agenda and paradigms implemented in the concept of capacity building, depending on whose context. As any other development strategy, capacity building is prone to manipulation by external forces with vested interest. It is making a capital out of the situation at the behest of covert agenda and at the expense of the development process. We must likewise not fail to recognize, the noble intentions of the majority of forces at play in the development arena. It is in this context that we must examine all existing initiatives on capacity building and integrate all workable solutions to come up with a focused and complimentary sharing of ideas and efforts.

Charting The Route: Towards An Integrated Understanding of Capacity Building

Capacity building, being a non-structural approach in urban disaster mitigation and as a process, pursues the imperatives of addressing vulnerability. To address the intermingling factors of vulnerability, the process has to look into the root causes of people's vulnerability. This would mean either working for change internally or externally with the existing systems and structures.

Capacity building should be viewed from the variety of perspectives and must integrate all concerns with the central focus on addressing the vulnerability factor, this would also mean assessing the needs in relation to the current capacities. It is important that our understanding of capacity building emanates from the platform of:

1. Human Resources, which would include skills – crafts and labor; knowledge – technical and indigenous; and character – attitudes and motivations.
2. Common Property Resources. Principally the natural resource and the environment – terrestrial and aquatic.
3. Sustainable use of resources. Utilizing resources in the context of sustainable development.
4. Socio – Economic Equity. Equal opportunities regardless of race, creed, faith, and gender.

Different capacity building paradigms focuses on either one of these, but the emerging trend in for a progressive approach on disaster response had enabled practitioners to gradually shift to an integrated approach in capacity building.

From this context, the common ground for understanding capacity building would be to develop, augment, and enhance the existing capabilities and coping mechanisms of a community as a process of strengthening their capacities to meet the adversity that confronts them, through a strategic guiding principle of sustainable human and resource development and socio – economic impartiality that would lead to empowerment and resilience of communities.

Although there is a common ground for understanding, still the strategy differs on the approach being adopted. As mentioned, there are a host of approaches in building capacities, ranging from training, public awareness, policy advocacy, community organizing, institutional networking, income generating projects, health, and emergency response. There is a need to integrate these approaches to have a comprehensive platform in approaching capacity building.

Factors:

There is no singular factor in putting the context of total disaster risk management in capacity building. Rather, it is a cornucopia of prevalent factors that should be considered.

Urbanization: Dangerous Spaces and Endangered Lives

The current population density in the major urban centers in the developing countries is alarming due to cramp communal sites, lack or non – existence of water and sanitary services, and in most cases neglected by the government services or there is just not enough for so many.

These conditions are aggravated by the scarcity of livelihood for the rural migrants whose skills are not much of use to the labor demands of the urban centers. As part of their coping mechanisms, migrants usually accept below average daily wage doing menial jobs, beg, get involve in theft and petty crimes, prostitution, and in some cases sell their body parts to sustain themselves.

The urban poor – as what society calls the financially incapable people in cities, lives in slums and ghettos which are very crowded with improvised shelters without water nor latrines.

Settlements such as these are especially prone to fire hazards, epidemic, storms, and floods. However, on the attitudinal aspect, they do not care much less about their condition.

In initiating the capacity building process, there are two things to consider, the reason for urban migration and the current state the migrants are in.

Political Will: Absence or Lack of It

In a political picture, we must examine how public policy and governance enhances or regresses the capacity of the nation to mitigate the impact of disasters. Taking into consideration the issue of sovereignty, intervention should be with due respect to existing governments. Development initiatives should be enhanced through the institutionalization of capacity building into the public policy framework. Capacity building here, therefore, focuses on the overall development effort of the political structure. However, vigilance must be practiced when working within these political frameworks, politicians have agenda and interest that often times comes in collision with development initiatives. This is especially prevalent on the issues like agrarian reform, human rights, and civil conflict.

Socio - Economic: Feudal Structures and Monopoly of Resources

One major hindrance in developing the capacity of vulnerable people is the influencing socio – economic structure and the monopoly of resources, which the structure thrives upon.

These situations are particularly manifested in countries with agriculture-based economies where vast expanse of agricultural lands are owned by the minority. This minority controls and espouses a feudal socio – economic structure wherein the gaps between the most capable and the most vulnerable are widely spaced.

In a socio – economic structure such as this, the minority who controls the economy also begets the political power, which in turn dictates the norms of the society.

Distorting the Landscapes: Issue of Land Conversion

In a bid for industrialization as a trend in globalization, developing countries have been converting fertile agricultural lands into industrial estates and diverse forestlands into open pit mines and energy plants. Not only does this affect the ecological equilibrium of the areas but as well displace people from their homes, ancestral domains, source of livelihood, and thus contribute to urban migration.

Economics of Development Funds: Puppetry or Partnership

The economics of development aid comes into primary focus in the discussion of capacity building in the region. Undeniably, much support – both financial and technical had been provided to local initiatives by funding agencies – both local and international. However, some of these development funds are subtle used as pressure points by donor to inject their own agenda, giving rise to donor-oriented projects, instead of being need based.

Culture: Social Class, Caste, and Gender

The cultural aspect dictates how people perceive risk in relation to their motivation to increase their capacity. However in a society, which distinctly classifies its people according to gender and countenance, it is a reminiscent of a feudal system by which services and gratifications are based to social strata. This in turn provides the platform of apathy and indifference towards playing an active role in self-empowerment. These sectors are already biased by the mere fact that they born either impoverished, marginalized, and in most cases – being women.

Technical: Whose Wisdom is Appropriate?

Expertise on the field of total disaster risk management must be sourced out and developed in – country. Instead of north – south technology exchange, which often times result to inadaptable and alien technology, indigenous knowledge and best practices must be put in the forefront.

Sustainability: Good Until It Lasts

There should be sustaining mechanisms in place for every project implemented. Millions of dollars of development funds are expended for administrative costs alone and without even any sustainable mechanisms for the continuity of the project. These cases results in unsubstantial project output and often times unfulfilled expectations.

Reversing the Trend:

The conventional trend on capacity building defines the disparity between the development process and the disaster management continuum. Although the concept of the disaster continuum is already antiquated, still the bulk of disaster related funds is consumed by emergency response. In Kofi Annan's words, "More effective prevention strategies would save not only tens of billions of dollars, but save tens of thousands of lives. Funds currently spent on intervention and relief could be devoted to enhancing equitable and sustainable development instead, which would further reduce the risk for war and disaster. Building a culture of prevention is not easy. While the costs of prevention have to be paid in the present, its benefits lie in a distant future. Moreover, the benefits are not tangible; they are the disasters that did not happen."

Simplifying Kofi Annan's words, it basically boils down to integrating capacity building measures into the development process it self. Capacity building thus works within the development process; it is not merely a mitigating measure but rather a part of the whole sustainable development agenda.

Thinking strategically, the approach to capacity building must be objective, it must not be superficial and must provide solutions to the root causes while tactically answering to the more pressing issues.

Going into the Root Causes of Urbanization

Urban problems do not readily translate to urbanization as the root cause of the problem. Urbanization itself is merely a result of a much more complex reality, monopoly of resources, land conversion, neglect of the countryside, and unjust socio – economic structures. This must be translated into promulgating sustainable rural development public policies, public awareness, training, livelihood programs, advocacy, and socio - economic reforms.

Sustaining Project Initiatives

Initiatives started at the community level both in the urban and rural areas must be reinforced, as this is prevalent in the developing countries that are highly dependent on external aid for development projects. Instead of reinventing the wheel, it should rather be developed.

Cutting Across the Cross Section of Society

Capacity building initiatives must not discriminate on whose vulnerability should be reduced. Criteria should be established to identify whose capacities should be developed considering all stakeholders and those whose lives and properties are at stake. Objective identification of the most vulnerable group must be made with full participation of stakeholders. This would ensure that the already disadvantaged sector specifically women, children, and the urban and rural poor would not be neglected.

Conscientization of Public Policy Makers

Policy advocacy and public awareness raising must be made as an effort to reform existing political structures to make it more responsive to the needs of the populace. Hinging on the legislative branch of the government, the people voices should be heard to influence both the promulgation of new public policies and the amendment of unpopular decrees. Conscientization would likewise provide check and balance on the legislative process under the watchful eyes of an informed and vigilant public.

Empowering Communities

The community must be at the forefront of the capacity building process, rather than just being at the tail end of it. Capacity building must work on the foundation of community participation as an active ingredient in the process of transforming lives and perceptions. By ensuring a participatory approach, it involves the community in the whole process from planning to evaluation. This would engender to the community the spirit of confidence, vigilance, and pride in working towards building their capacities.

Dismantling of Resource Monopolies

One of the biggest pressures both in the urban centers and the fragile ecosystems are the migration and encroachment of settlers. In most agricultural developing countries, monopolies of resources are rampant. This ranges from physical to financial resources, which are controlled and concentrated to the minimal fraction of the population. This in turn leaves the majority of the population to be highly dependent on the whims and caprices of those who control the economy. In a brutal cycle of poverty, the condition is handed down from one generation to another, widening the gap between the most capable and the most vulnerable.

The Stakeholders

Looking through the context of urban disaster mitigation, we could readily identify that there are multiple actors in the capacity building process. As the concept of capacity building encompasses the major aspects affecting the community – political, social, economic, and cultural; thus from this vantage, capacity building should focus on multiple stakeholders – their strengths, needs, and priorities. Who are the stakeholders?

People's Organizations. Often times viewed as end beneficiaries of projects. People Organizations have evolved into a major stakeholder, not just as recipient but as implementers fully involved in the project cycle.

National and Local Governments. Mandated by law to deliver the basic support services to the citizenry. In the context of Urban Disaster Mitigation, these would include planning and land use agencies.

Local Non- Government Organizations. Operating mostly at the behest of development funds from international donor agencies.

International Non – Government Organizations. Operating reciprocally as a project partner implementer and as a donor organization involved in regular monitoring and evaluation of in – country projects.

Donor Agencies. Provides both grants and loans to development projects worldwide.

The Mass Base. Represent the bulk of the population in any given community who have no organizational affiliations. The silent majority who readily accepts the existing norms and standards.

In the light of Total Disaster Risk Management, focus is gradually and continually shifting towards community management of development projects. As both beneficiary and implementers of the projects, the community takes a proactive role in the building their capacities. We see the people's organization as having the central role. However, this oftentimes needed to be initiated by external actors through community organizing and / or deputizing village management collectives.

Where do we begin? Identifying Areas of Intervention.

Capacity building as a response to the reduction of vulnerabilities by enhancing existing capacities, should examine the multiple realities in the region. As we are well aware of, vulnerability is expounded by the level of awareness or lack of it, political systems and governance, economics of resource allocation and utilization, and the cultural – attitudinal factors of the people. A most appropriate response is to focus on these factors. Need – Based Response is the key criteria for identifying areas of intervention in capacity building.

In identifying the areas of intervention; we must analyze the categories of both the vulnerabilities and the capacities of the target communities. Being antonymic to each other, vulnerability and capacity assessment provides both the problem areas and the strategies for solutions. In a sense, we should know who are vulnerable; when are they vulnerable; why are they vulnerable; how did they become vulnerable; what are their capabilities, and their coping mechanisms.

Categorically, capacity assessment appraises the physical, social, and attitudinal aspects of the communities. The physical aspect includes infrastructure location and design, financial resources, and the environment; social aspect comprises of organizations, institutions, government and non- government programs, system of governance and social networks; attitudinal aspect involves capabilities, skills, knowledge, confidence and character.

It is extremely important that strategic programs must be designed based on the capacity assessment to ensure:

1. Proper inventory of existing capabilities and coping strategies to guarantee that people capacities are not left out and to avoid mistakes in program design and waste scarce external resources
2. Coping mechanisms are identified and supported rather than ignored.
3. Responses and project design are appropriately patterned according to the needs.
4. Identification of appropriate approach.

This process would provide the premise for the kind of intervention people from the outside could implement. It would likewise be the point of reference for government agencies to respond to the needs of its constituents. As a basis of action, it is making people in the community level assess their own needs as a process of data gathering and translating it into information by providing the human face.

Several institutions both from the non – government and the government sectors have made major steps towards a constituency and community based capacity building in the context of disaster risk mitigation.

The Asian Disaster Preparedness Center, have no pretensions that it has directly pursued a total risk management approach in addressing the gamut of the problems posed in the urban centers. Rather, in its own modest way, had initiated tactical projects aimed at reducing vulnerability and building on capacities. Foremost among these programs is the Asian Urban Disaster Mitigation Project, which aims at building capacities through training, partnerships, information exchange, and in – country structural mitigation projects.

ADPC's work is successfully manifested in the improved capacities of its partner organizations in managing risk. Among which are:

Local Government. The Naga City Flood Mitigation Strategy, which was fully adopted by the local government of Naga City in the Philippines in addressing hazard.

NGO. The public awareness and retrofitting program of the National Earthquake Society of Nepal which was a major factor in lobbying and raising awareness on the threat of earthquake in the Katmandu Valley.

Academe. The public awareness initiatives and capacity building for preparedness and response of the Institute of Technology of Bandung, Indonesia.

ADPC also works together with other partner institutions within the region in Laos, Cambodia, Vietnam, Bangladesh, and Sri Lanka. Likewise, ADPC also functions as a venue for sharing among partners of best practices put forward in the realm of disaster risk management. As such, supporting papers will be presented during the workshop by individuals coming from local and non government agencies in the region, which are :

The Center for Disaster Preparedness. A presentation on sustaining initiatives on disaster risk management.

The Department of Social Welfare Development, Philippines. A presentation on the capacity building experiences of the former DSWD Secretary.

Capacity building as a mitigating measure against disaster must address not only the public safety of those living in the urban centers but must likewise contribute to socio – economic development of those living in the country sides as an added value to mitigate the influx of migration to the urban centers.

This approach considers a strategic viewpoint in releasing some of the dynamic pressures both in the urban centers and the countryside. To achieve this, capacity building integrates the development process into the realm of disaster mitigation, emphasizing on sustainable human resource development, institution building, socio - political reforms, and sustainable utilization of the common property resource, and cultural sensitivity.

Table 1: Strategic Aims and Tactical Activities present the relation of aiming strategically for mitigating urban disaster and urbanization whilst launching tactical activities.

Table 1: Strategic Aims and Tactical Activities

STRATEGIC AIMS	TACTICAL ACTIVITIES
1. Sustainable Human Resource Development	Community Organizing Training Access to Education Review and Implementation of Progressive Public Policy
2. Self Reliant, Resilient Communities	Community Based Disaster Management
3. Sustainable Use of Common Property Resource	Advocacy Public Awareness Information and Technology Sharing Training
4. Responsive, People Oriented National Development Policy	Advocacy Institutionalization of Community based Disaster Management into the National Policy
5. Community Managed Sustainable Livelihood Programs	Institution Building Networking Community Organizing
6. Reduction of Urban Migration	Comprehensive Rural Development Programs Review and Implementation of Land Reform Law Public Awareness Ban on agricultural land conversion
7. Safer Cities	Review and Implementation of Zoning Ordinances Review and Implementation of National Building Codes Retrofitting of Public Infrastructures Community Based Disaster Management

This whole strategy does not happen overnight nor does it have any seasonality, rather it is a continually evolving process towards that goal of dismantling structures that make communities – urban or rural, vulnerable.

We should consider that it is inherent in every human being the instinct for survival. Even communities living in disaster prone areas have evolved a system of preparedness and mitigation, regarding hazard events as part of natural cycle of life. They had developed through time a coping mechanism, which had become a distinct part of their capacity.

It is therefore imperative that we must initiate and strengthen the capacity building process. To do so, we must be resolute to strategically aim for addressing the root causes of vulnerability of societies and tactically redirect and continue the existing capacity building activities towards vulnerability reduction.

There are neither illusions of grandeur here nor any delusion but the process would take us to a less traveled path and speak the unspoken isms, it will require us to see beyond the curtain of fallacy, and we shall face overwhelming odds, yet at the end of the day, we will say – we did good in our time. We will see the result of our efforts when the statistics fall and more communities become resilient to the impact of hazard events.

CAPACITY BUILDING: EXPERIENCES OF KVERMP

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Approach Adopted

- The Kathmandu Valley Earthquake Risk Management Project (KVERMP) aimed at beginning a self-sustaining earthquake risk management program for Kathmandu Valley. Therefore, raising public awareness, educating people on aspects of earthquake risk reduction, and institutionalization of risk reduction were important objectives of KVERMP.

- Institutional strengthening, training and education were program activities built into KVERMP. The idea was to strengthen NSET adequately so that it could continue the work initiated in KVERMP, and that it could serve as a neutral advocate for seismic safety.
- At the same time, strengthening the Kathmandu Municipality, especially its Disaster Management Unit on an experimental basis, was one of the stated objectives.
- Capacity building is understood as efforts for reducing vulnerabilities. Therefore, it tried to involve in the process all stakeholders and related institutions.
- We firmly believed that capacity can't be grafted from outside. Rather, it should grow from within. It was understood that the maximum KVERMP could do was to enhance the process as a catalyst and help the community/institution keep it going. Grafting from outside destroys even the existing capabilities and institutional mechanisms.
- Capacity building is a process the pace of which is best decided by the society. All institutional development and training agenda were set by the stakeholders; NSET only tried to help accelerate it only if there was the potential capability.
- Capacity building included generating knowledge and developing skills. At the same time, it also included institutional strengthening. Our efforts in capacity building tried to integrate the two processes. We tried as much as possible to implement training programs in association with ongoing programs of risk mitigation.
- We paid utmost respect to local wisdom, traits and coping mechanism for disaster risk reduction and response. We are concerned that in many cases, the traditional wisdom is getting eroded gradually, and we tried to reverse the trend as much as we could.
- The training programs were targeted to the group that has the responsibility, actual or presumed, for disaster risk reduction. Thus the target groups were those individuals from related institutions who actually do the job or who make the decisions. This is for ensuring immediate implementation of the skills learned in the process.
- Our concept of training had a marked emphasis on informal education, although we did put efforts in more formal training such as Urban Disaster Mitigation (UDM) and Earthquake Vulnerability Reduction for Cities (EVRC).

Scope and Method of Capacity Building

Activities that were incorporated in KVERMP and which were implemented are listed in the following Table. Some of the main activities are described below.

No.	Sub-activities	Description
INSTITUTION BUILDING		
1	Strengthening the Disaster Management Office of Kathmandu Metropolitan City	• KVERMP arranged the services of a short-term expert consultant to help the newly established disaster management office of Kathmandu Municipality develop an optimal concept for the unit, identify priority actions and staff requirements. • The expert provided training to the staff of the Disaster Management Unit of KMC. Officials from other municipalities also participated in the training.
2	Institutional strengthening of NSET	• Developing strategic plan for NSET
		• Attendances in International Conferences: Several NSET staff participated in international conferences/workshops abroad. Expenses for such participation was largely from outside the KVERMP budget.
		• Visit to similar institutions in other countries: NSET key project professionals visited several institutions in Japan, US, New Zealand, India, Philippines, Thailand.
3	Establishing Disaster Management Committees at municipal ward level	• Efforts towards awareness and holding a training program at the ward level resulted in the establishment of a Disaster Management Committee in Ward 34 of Kathmandu Municipality and Ward 10 of Lalitpur Municipality. • During KVERMP and subsequently, NSET provided assistance to DMC34 in fund-raising and mobilization of available resources to for developing local capacity and preparedness. • More recently, NSET assisted the Kathmandu Metropolitan City to implement training program in 3 more wards of the municipality. The training program has been very successful, and during the process, Disaster Management Committees have been created in each of the three additional wards. • Thus a comprehensive procedure has been developed for ward level disaster preparedness planning and implementation including awareness raising, training, establishment of DMCs, fundraising strategies, creation of advisory committees with desired qualification of the advisors and their duties. • This experience was very handy for the implementation of community level preparedness works under the JICA-sponsored Earthquake Disaster Preparedness Planning project implemented by the Ministry of Home Affairs. Community watching to identify the resources and constraints within the ward, action planning, development of implementation strategies, road map for training, have been carried out very successfully. • Currently, UNDP Kathmandu is in the process of getting funding from OFDA to replicate the successes of Ward34 DMC to other wards with further strengthening the activities in the areas of 1) Emergency response planning, 2) public awareness, education, training for enabling local volunteers and residents in various skills, 3) pre-positioning an optimum emergency supplies, 4, Development of ward level database and 5)

		establishment of a system of volunteers. WE expect to develop a synergy among Nepal Red Cross Society, Municipality and ward offices, NSET and UNDP Nepal in enhancing ward level capacity in disaster preparedness and management.
4	Participation in IDNDR process	• As a member of the National Committee for IDNDR, NSET worked closely with the Ministry of Home Affairs, the secretariat of the national committee, in developing the national action plan for disaster management and its presentation to the Yokohama Conference. This cooperation continued subsequently until the final year of IDNDR. NSET was a part of the team to prepare the national report.
5	NSET's contribution to the Sectoral Working Groups	• Following the 1993 heavy floods in south-central Nepal, three sectoral working groups were created for enhancing disaster management capability of the country through preparedness. The working groups were 1) Health, 2) Food and 3) Logistics. The working groups drew members from related government agencies, NGOs, Bi-lateral and multilateral donor agencies of Kathmandu. The objective was to enhance national capabilities for disaster response by developing emergency response and preparedness plans, guidelines, and implementation of mitigation measures. • NSET has been representing in two of the sectoral groups. As a member of the Health Disaster Working Group, NSET participated as a Core Group member to develop the Health Sector Disaster Preparedness and Emergency Response plan for Health Sector of Nepal.
6	Implementation of Environmental Mapping Projects for municipalities	• Enhanced interaction with the five municipalities of Kathmandu valley during the implementation of KVERMP resulted in Madhyapur Municipality requesting NSET to assist in mapping environmental vulnerabilities and opportunities so that the environmental considerations are adequately taken into consideration in the overall development plan of the municipality. • This process of environmental mapping projects leading to the formulation of an environmental workbook with the establishment of digital database including AutoCAD/GIS – based digital maps have been carried out for the municipalities of Kirtipur and Dharan, and is currently being carried out in Banepa municipality. • In Banepa municipality, the environmental mapping project additionally includes a comprehensive work for earthquake risk management: scenario and action planning as per RADIUS methodology, inventory and vulnerability analysis of buildings, training, awareness raising and School earthquake Safety initiative. Thus the project would have significant components as replication of KVERMP experiences.
7	Assistance to NPTIs	• NSET worked closely with ADPC in the identification of NPTIs, and subsequently in localizing the generic curricula (UDM) and its delivery.
TRAINING		
8	National Training on Disaster Management	• NSET assisted NPTIs to localize the generic curriculum for UDM training. A ten-day national training program on UDM was implemented successfully in collaboration with the Institute of Engineering (IOE).

9	Participation in AUDMP/ADPC Regional training programs	• Three NSET staff participated in Regional training program of AUDMP. • NSET facilitated participation of Nepalese professionals from partnering institutions in 1) Technological Disaster Management, 2) Urban Flood Management, 3) PEER: TFI • NSET staff participated in the international training program conducted under RADIUS.
10	Conduction of Training Programs on Disaster Management	• NSET organized several training programs, especially community-based, in the wards of Kathmandu & Lalitpur municipalities. • NSET organized several training programs for media people on Disaster management and how to report disaster events (disaster journalism).
11	Training of Masons on earthquake-resistant construction and retrofitting of typical building	• On-the-job training program for masons was started during KVERMP and is continued since then. It is regarded highly successful not only for facilitating replication but also raising the lifestyle of the trained masons.
12	Awareness programs for Technicians	• At the request of DEAN, Diploma Engineers Association of Nepal, NSET organized several one-day training programs for the technicians in earthquake-resistant construction, building code of Nepal, retrofitting etc. • A manual on Earthquake-resistant construction of school building has been published by NSET in collaboration with UNESCO Nepal.
13	Implementation of EVRC and ASC2002	• One of the glaring examples of the institutional capability enhancement of NSET is the implementation of EVRC1 in Kathmandu by ADPC in association with NSET and WSSI, EMI in May 2002. • EVRC2 is planned for November 2002 in Kathmandu as a pre-symposium training program preceding the Assembly of the Asian Seismological Commission (ASC2002) and the Symposium on Seismology, Earthquake Hazard Assessment and Risk Management. ASC2002 (including the Symposium) is being organized by NSET in association with ADPC, while ITC Netherlands and ICIMOD Kathmandu are extending their cooperation for the organization of the training program EVRC2 jointly.

Apart from the above-listed, NSET is currently hosting national and international interns, who conduct researches in aspects of earthquake risk management. The experience of NSET in KVERMP and after is the topic of a Master's Degree thesis of an Urban planner form SEPT, Ahmedabad, India.

Similarly, NSET is in informal agreement with the engineering colleges of Kathmandu for the involvement of their senior-class engineering student for the conduction of building inventory and vulnerability analysis. We already conducted this exercise once last year, with the involvement of about 100 students who learned during the process significant aspects of earthquake vulnerability analysis of existing building. This aspect is usually not included in the traditional curricula of engineering studies.

Impact of Training and capability enhancement

- NSET's institutional growth has been phenomenal. This has contributed to the enhancement of NSET as the national focal point for Earthquake Risk Management in Nepal, one of the stated strategic objectives of the organization.
- NSET's standing has grown outside Nepal also. At our request, the government of Japan and New Zealand has provided scholarships to NSET engineers for Post-graduation studies in Earthquake engineering in their respective universities.
- KVERMP process assisted NSET in establishing its credibility. Now this is a trusted institution. Government as well as non-governmental institutions and private businesses seek our expert opinion, formally or informally on aspects of earthquake risk mitigation.
- There is a growing realization of the need of establishing Disaster Management Committees at the ward level. The working model established in KVERMP process is found to be accepted by other ward indicating to the replicability. We continue receiving more and more requests from municipal wards and also by village communities.
- There is a realized need to provide academic courses on disaster management and earthquake resistant design. This was expressed by the Institute of Engineering of the Tribhuwan University. Private colleges are also expressed to develop academic courses at Bachelors and Masters levels, may be elective courses at present.
- NSET is requested more frequently to assist with training programs for technicians and engineers.

Lessons Learned

- Realization of Kathmandu Valley's immense and growing risk from earthquakes by its residents and also by the international community based in Kathmandu has resulted in increased qualitative as well as quantitative demand for earthquake safety.
- Institutional building or institutional strengthening for enhancing disaster management capacity in Nepal was started for the first time in Nepal in the government sector in late 80s. A decade down the line, there is still so much to be desired in terms of institutional strengthening in the government sector.
- Capacity building must be very carefully considered in order to be able to cope with the growing demand for earthquake safety. So far, NSET/KVERMP have exercised the required level of flexibility in addressing the demands. However, a serious effort is necessary to look at the necessity of institutional building and strengthening at the national, district and community levels. Much work needs to be done by the elected bodies at the district and municipal levels.
- There is the need to create a Kathamdnu Valley Disaster Management Committee as an apex body that could provide guidance to the municipal and ward level disaster management committees. The latter are yet to be established. The DMCs in wards 34, 4 and 5 could serve as prototypes.
- KVERMP allowed evolution of the concept of training and capacity building as we proceeded along. Capacity building is a long-term evolutionary process. The need and demands grow as the community moves forward. In NSET, in the process of KVERMP implementation and subsequently, we tried to keep pace with the emerging dynamics by modifying programs, developing training curricula, and implementing training programs. Hence, in KVERMP, we ended up doing much more than what we initially accepted to do.
- Existence of NSET as against a lack of similar organization in Quito was always emphasized by GHI as the main cause of continuity of ERM efforts in KV as against the case in Quito, which enjoys much better economy.

CAPACITY BUILDING TRAINING TECHNICAL PERSONNEL: SHARING EXPERIENCES AND LESSONS LEARNT FROM SRI LANKA

Lionel Hewawasam, Center for Housing Planning and Building

ABSTRACT

Technical activities of Urban Local Authorities (ULAA) are handled by the Works Department or a Division headed by an Engineer or a Superintendent of Works. These technical personnel belong to the Sri Lanka Engineering Service (SLES) and the Sri Lanka Technological Service (SLTS). Delegation of responsibilities to the Works Department/Division varies in different ULAA. E.g. In some cases, Works Department/Division handles health and sanitation related activities in addition to civil works. Health Division of some of the ULAA handles activities related to garbage disposal and management while this activity has been entrusted to the works department in some of the ULAA.

The experience gathered by almost all the technical officers was based on traditional procedures and systems related to construction activities. The Building Applications used by the ULAA are uniform in nature and those do not concentrate issues related to construction in disaster prone areas. The revision of the Building Application is necessary paralleling with the training of technical personnel. The training needs assessment of this particular segment of local government employees had been a long felt need. SLUMDMP training of technical personnel was with the objective of building capacity of these personnel to deal with structural mitigation at the local authority level. SLUMDMP carried out a facts finding exercise related to the nature of technical personnel attached to and associated with activities of local authorities, which fall within the purview of demonstration and replication phases of the project. The following types of technical personnel have been identified as a result:

- Engineers of SLES attached to the Municipal Councils (MCC) mostly
- Technical Officers of SLTS attached to MCC and other Local Authorities (L.AA.)
- Craftsmen employed by the L.AA.
- Technical personnel (Engineers, Technical Officers, Craftsmen etc) employed in construction firms registered with the L.AA.

Training conducted by SLUMDMP for these categories were facilitated through the following sources of funding:

- Funds provided by SLUMDMP (for Demonstration Project and Replicating Towns)
- Funds provided under Asian Development Bank (ADB) assisted Urban Development Low Income Housing (Sector) Project - UDLIHP (for other local authorities outside SLUMDMP)

Themes of training modules developed for this purpose were on,

<u>For Engineers and Technical Officers:</u>

- Construction considerations in natural disaster prone areas and
- Crisis Management. (This is a responsibility vested in the Works Departments/Divisions of L.AA.).

<u>For Craftsmen:</u>

Counter Disaster Measures (CDM) based Guidelines for construction in disaster prone areas.
Class Room Sessions, Demonstrations, on site practical sessions and on the job training were the methods applied for training the technical personnel. Handouts and simple leaflets were distributed among the participants. Experiences gathered and lessons learnt through training technical personnel will be discussed in detail in concluding the paper.

Introduction

Sri Lanka Urban Multi Hazard Disaster Mitigation Project (SLUMDMP), has been working in Ratnapura Municipal Council (RMC), Nawalapitiya Urban council (NUC) and Kandy Municipal Council (KMC) respectively for Demonstration Project and replicating activities. The capacity building at ULA level had been a long felt need in different disciplines falling within the purview of local governance. Technical activities of ULAA are handled by the Works Department or a Division headed by an Engineer or a Superintendent of Works. In the case of Municipal Councils, Municipal Engineers are heading this Department under the supervision of the Municipal Commissioners. These technical personnel belong to the Sri Lanka Engineering Service (SLES) and the Sri Lanka Technological Service (SLTS). Delegation of responsibilities to the Works Department/Division varies in different ULAA. In some cases, it is observed that Works Department/Division handles health and sanitation related activities in addition to civil works. Health Division of some of he ULAA handles activities related to garbage disposal and management while this activity has been entrusted to the Works Department in some of the ULAA. Shortage of staff, lack of sufficient funds, shortage or non-availability of facilities such as tools and equipment would be the causes for this complex situation in the delegation of powers and responsibilities to sub departments/units in ULAA. The opportunities for technical personnel attached to ULAA for skill and knowledge development, sharing of experience access to learn about new technologies and their application were very limited.

The experience gathered by almost all the technical personnel was based on traditional procedures and systems related to construction activities. The Building Applications used by the ULAA are uniform in nature and do not concentrate on issues related to land use or construction in natural disaster prone areas. Revision of Building Applications is necessary paralleling with the training of technical personnel. Opportunities for managerial level technical staff working in the ULAA to participate in the process of physical and urban planning are also limited.

Training needs assessment of this particular segment of local government employees had not been carried out for a long time. Sri Lanka Urban Multi Hazard Mitigation Project (SLUMDMP) being a small project with limited scope and geographical area, attention was paid to study what type of training they needed to carry out SLUMDMP initiatives in their local authority areas. Frankly, this is also a very limited approach because SLUMDMP training of technical personnel was linked with the objective of building capacities of these personnel to deal with structural mitigation at the local authority level.

Target Audience

SLUMDMP carried out a fact-finding exercise related to the nature of technical personnel attached to and associated with activities of local authorities, which fall within the purview of Demonstration and Replication Phases of the project. The following types of technical personnel have been identifies as a result:

- Engineers of SLES attached to the Municipal Councils (MCC) mostly
- Technical Officers of SLTS attached to MCC and other Local Authorities (LAA)
- Craftsmen employed by the ULAA
- Technical personnel (Engineers, Technical Officers, Craftsmen etc.) employed in construction firms registered with the ULAA.

Sources of Funding

Funds made available from SLUMDMP for training of technical personnel of ULAA falling within the project areas were limited. The original thinking was to conduct 3-4 programmes for craftsmen. In the process of actual delivery of training to these personnel SLUMDMP realized that more funds would be required to implement comprehensive training to this particular target audience and it was looking for further attraction of funds from other sources. This effort was successful and training conducted by SLUMDMP for technical personnel could be facilitated through the following sources of funding;

- Funds provided by SLUMDMP for Demonstration and Replication Phases

- Funds provided under Asian Development Bank (ADB) assisted Urban Development Low Income Housing (Sector) Project (UDLIHP) for other local authorities outside SLUMDMP

- Funds attracted by SLUMDMP from ITDG South Asia, Colombo, under its Livelihood Options Project implemented in collaboration with National Building Research organization (NBRO) within Nawalapitiya Urban Council area.

Funds obtained from these sources created a situation to deliver training for a large number of technical personnel attached to the ULAA.

Training Modules

A committee has developed the curriculum in this respect. At the stage of curriculum development for training the technical personnel, academic and professional background of the target group and nature of programmes to be designed were considered by the Curriculum Development Committee (CDC). Information collected from fact finding exercise carried out as required by SLUMDMP and training needs assessment carried out by UDLIHP assisted training were been made available to the CDC to develop suitable training modules. The themes of training modules developed for this purpose are as follows;

For Engineers and Technical Officers:

- **Construction Considerations in natural disaster prone areas** - *Sessions conducted under this module have been structured on the following topics;*

  - *Overview of natural disasters*
  - *Disaster situation in Sri Lanka and the region in general*
  - *Importance of disaster mitigation within the whole process of Disaster Management*
  - *On-site and off-site construction considerations related flood, landslides, cyclones and high wind and lightening prone areas*
  - *Coordinating and working with other stakeholders especially with contractors, service providing organizations and Community Based Organizations (CBOO).*

- **Crisis Management**

  - *Crisis Management is a responsibility vested in the Works Departments/Divisions of the local authorities. Preparation of an Emergency Management Plan for each local authority has been the final outcome of this training module.*

For Craftsmen:

- **Counter Disaster Measures (CDM) based on guidelines for construction in natural disaster prone areas -** *Guidelines for construction in natural disaster prone areas have been published by the SLUMDMP. These guidelines were used to conduct CDM training for craftsmen. Theoretical sessions in brief and practical sessions in detail have been conducted under this module.*

  Funds were provided by ITDG South Asia, Colombo, to conduct one training workshop of this module to craftsmen who are members of two CBOO at Soysakelle and Dolosbage areas prone to landslides in Nawalapitiya, which are practically involved in structural mitigation.

Methodology:

Classroom Sessions, Demonstrations, on-site practical sessions, on the job training and site visits were the methods applied for training the technical personnel. Handouts and simple leaflets were distributed among the participants. Video presentations were also used during lectures.

Lessons Learnt and Concluding Remarks

Common Lessons:

Some of the lessons learnt during this effort are similar to those from public awareness programmes. Examples are given below;

- Language Barrier in delivering training
- Training materials in local language(s) should be available
- A Glossary of Technical Terms related to disaster management terminology is essential
- Short courses are preferable

Lessons specific to Training of Technical Personnel:

Lessons specific to training of technical personnel are mainly connected with the administrative and organizational structure of the local government sector. The local authority itself finds it difficult to address most of these issues. It needs collaborative effort with other relevant organizations and effective coordination among related stakeholders. This paper attempts to highlights some of the important issues.

- **The long duration courses are not feasible for all the categories of the target audience:** The heads of local authorities find it difficult to release technical personnel for long duration courses because they are involved with maintenance activities undertaken by the Works Department/unit of the local authority. Most of the day-to-day activities are connected with the provision of services such as water supply and drainage, electricity, garbage disposal etc., which are directly related to lifeline of the taxpayers. It is also difficult for local government administrators to release technical personnel batch by batch due to limited number of technical staff attached to LAA. Therefore, short courses for 1 to 2 day duration are the most feasible and attractive programmes for technical personnel. The training implementing organizations should design their training packages considering the prevailing problems for technical officers to participate in long duration courses.

- **Productive results cannot be expected from the trained technical personnel until LAA revise the building applications to consider approvals for development projects proposed/planned in natural disaster prone areas:** As stated elsewhere in this paper, prevailing Building Applications used by the LAA are common to all councils. The revision of these applications has been a long felt requirement. Granting of development approvals for projects proposed or planned in natural disaster prone areas cannot be done through the information given in these applications because they do not specifically consider disaster prone areas falling within the limits of each council. Although, technical personnel are given awareness to prevent people from proposing or planning development projects in areas prone disasters, it is not possible in actual terms due to shortcomings of Building Applications. This is a policy matter common to all LAA and it should be brought to the notice of the policy makers of local government sector for suitable policy formulation and related regulations for LAA to follow with regard to this particular issue.

- **Training should be provided to other categories of personnel:** Trained technical personnel find difficulties in working with other categories of personnel directly associated with them in construction related activities. Contractors, draughtsmen, Surveyors, Lawyers and other professionals are such categories who have direct involvement in construction activities and also who need to have awareness on structural mitigation related operations. If these categories are left out from awareness building, training given to technical personnel will not be effective during real operation of construction activities. It is proposed that this should be a follow up activity beyond the project period of SLUMDMP.

- **Visual materials and demonstrations on the application of new technologies are more effective in CDM training conducted for craftsmen:** Craftsmen who participated in training courses conducted by SLUMDMP were a heterogeneous group. They were at different levels of education, age, experience etc. Teaching with visual aids and demonstrations were of immense value for them to understand theoretical presentations made and technical applications explained during the sessions.

- **Daily Subsistence Allowance (DSA) should be paid to encourage participation:** Payment of DSA to the participants has been practiced over the years in the process of implementation of training programmes in Sri Lanka. The reasons for such operation are not very clear. However, it is observed that mostly the training delivered through foreign funds, have applied systems to pay DSA to the participants. This has now become a usual practice and participants also expect DSA when they attend courses. SLUMDMP had difficulties to attract participants for the courses conducted in training technical personnel since payment of DSA was not encouraged by the project. On the other hand it is somewhat difficult to attract participants for courses on fee levy basis due to two reasons.

    - Lack of local funds for training in the budgets of LAA to train the staff attached to the councils
    - Participants find it difficult to pay course fees out of their income. In the case of craftsmen, they loose their daily income when they spend the day attending a training course.

Concluding Remarks

- **Sustainability of training delivered to technical personnel by SLUMDMP:** Follow up of training provided to technical personnel should be continued beyond the project period of SLUMDMP. Post training evaluating and timely updating is the most essential follow up activities. It is assumed that CHPB would undertake follow up activities provided funds are allocated by local or foreign sources. CHPB being an organization which generates income for its survival, will find it difficult to carry out follow up activities of training technical personnel undertaken during the SLUMDMP project period, without a source of funding.

- **Feed back of courses conducted, endorses the need for training for others associated with activities carried out by technical personnel:** Knowledge and awareness given during training sessions have to be applied in practical terms on site with the assistance of other people involved in the whole process. Contractors, draughtsmen, surveyors, lawyers, housewives of individual house builders, property developers and other professionals (engineers, architects and planners) are falling within this group. Draughtsmen carry out design for individual house builders mostly. Housewives are usually tempted to change the designs of houses being built by them during construction stage. This is one of the issues raised by craftsmen during training sessions. It is also observed that surveyors, lawyers and property developers when blocking out and writing deeds are dishonouring some of the planning regulations. Therefore, these categories of people/professionals should also be trained if productive results are expected from technical personnel after training. Training specific to these personnel has not been delivered within the process of SLUMDMP activities. Training needs of these categories should be assessed and the training packages designed in future. Funds required to implement these courses should also be sorted out.

- **Policy related changes will create a situation to strengthen the mechanism of training technical personnel of the local government sector in the future:** Land use and national physical planning policies are being reviewed and developed in Sri Lanka. Development of Regional Structure Plans for each region have commenced to be developed on the basis of national physical planning policy. These new developments will be result in the increase of the number of target group and review course contents to suit the prevailing situations. The procedure of granting development approvals will also be changed or revised according to the new developments. Trainers should prepare themselves to address the issues relevant to new training areas, which will be identified at this point of development. The question is who will undertake this challenge and through what source of funding?

Institutional Arrangements and Capacity Building of Colombo Municipal Council for Disaster Management

Padma Karunaratne, Colombo Municipal Council

Introduction

Colombo is the commercial capital of Sri Lanka with a population around 685,000 and a floating population of nearly 400,000 according to the census in July 2001. The extent of land is 3731 hectares with a housing stock of over 100,000 of which 51% are underserved settlements consisting of slums, shanties and tenements. The population growth is 1.14%.

Colombo faces heavy human and economic losses from recurring disasters whose frequency and intensity have increased dramatically in the recent years. Population growth, unplanned urbanization and dislocation of underprivileged communities and reduction of water retention areas magnify the effects. Common disasters faced by Colombo could be categorized as floods, bomb explosions, fires, epidemics and contagious diseases, chemical leakage etc. Out of them, floods, fires and epidemics are almost common events in the past years whereas bomb explosions occur frequently from early 1980s.

Although human made disasters and complex situations of technological disasters cannot be ruled out, flooding is identified as the main natural disaster in the city. During the past 100 years, hazards caused by them are on the increase. People living in underserved settlements are more vulnerable for epidemics and contagious diseases. Densification of the city population results in increased use of low-lying areas and construction of multi-storeyed buildings for which precautions for spreading of fires are not properly adhered to or maintained.

Further, Colombo Municipal Council has very few records on the nature of industrial chemicals or gases stored in Colombo, mainly in the North, type and extent of the damage that can be caused when an accident occurs.

During the last few years, threat and hazard caused by explosions have increased tremendously. Since mid 1980's there were over 15 serious bomb blasts in the city. Out of them, two major attacks at Colombo Central bus terminal and the Central Bank were the worst, which claimed over 120 lives in each and resulted by a grave loss of economy. During these incidents, Colombo Municipal Council had to work with the Central Government and to carry out restoration work on emergency services such as water, drainage etc.

Initial Steps

In May 1999, Colombo has set up a structure to activate at a time of a disaster, **Crisis Management Committee** that is now known as the **Emergency Management Committee.**

Main objectives of the project are:

- To establish a system with preparedness to act immediately, efficiently and effectively
- To establish a mechanism for reduction of damages for lives, property and economy.
- To develop skills and plan for risk reduction for multiple hazard situation.
- To assess capabilities of Disaster Management and develop strategies.

The main task of the team is to formulate strategies within the legal and administrative framework, to prepare action plans to ensure safety of people and property, to activate on timely relief and resources, to effectively utilize available resources in a conducive manner, to train and make aware of Council employees on their respective responsibilities and also to effectively obtain the support of the Central Government, NGOs, Private Sector and the business community. The Emergency Management Committee of the Council is expected to liase with the Colombo Disaster Council that was set up in 2000 under the Presidential Secretariat focusing on human made disasters, with Centre for Housing, Planning

and Building (CHPB) on natural disasters and also with the other relevant service institutions. However, more fruitful out comes were achieved with CHPB. They have identified Colombo City as one of replication city under their (SLUDMP) project of ADPC.

The two initiatives taken under the programme are;

- Flood hazard Zonation mapping using GIS
- Preparation of Emergency Management Response Plan

Strategies and Actions

Identification of the effected areas due to floods of different return periods was one of the initial steps. That helped the council to identify the communities vulnerable to floods of very frequent nature and concentrate more on their needs. This also helped the council to locate evacuation centers, access to those places, identify most essential initiatives in terms of evacuation, relief supply, direction of rescue teams, training of first aid teams, health and sanitation issues etc. The GIS maps are intended to overlay with the infrastructure maps and found to be useful as a multi-purpose tool in decision making.

Seriousness of flood situations is accelerated by the inadequate surface drainage system. Studying the mostly affecting flooding areas of the city, Colombo Municipal Council has identified 5 key zones in Colombo South, West and East. The Sri Lanka Land Reclamation and Drainage Corporation has already completed that multimillion-drainage project coordinated by CMC. Under this programme, improvements to Jawatte and Sulaiman canal for Rs. 247 million, Unity Plaza scheme for Rs. 526 million, St Sebastian canal for Rs. 105 million, Maligawatte and Dematagoda areas of Colombo East for Rs. 92 million and Serpentine canal at Wanathamulla for 92 million were completed and drainage network was rehabilitated. This upgrading to surface water drainage system certainly enhances the capability of flood mitigation and reduces damages to a greater extent in the city. Concurrently, with our own road improvement programme, we construct new drainage lines or enlarges the existing capacity of drains of rehabilitating roads.

The main Crisis Management committee and sub committees were formulated at initial stages. The main Committee now consists of His Worship the Mayor, Deputy Mayor, Municipal Commissioner, Deputy Municipal Commissioners, Municipal Secretary, Municipal Treasurer, Chief Officer of Fire Brigade, Chief Medical Officer of Health and Charity Commissioner. The Director Training is the main coordinator and the Central Coordinating Team is responsible to coordinate all functions, external bodies, media, collection of information and preparation of action plans etc. Several functional based teams support the main committee.

- Search and Rescue Team – responsible for all immediate response measures at the site.
- Health Team - responsible for all sanitation and medical measures before, during and after any disaster.
- Water /Drainage /Rehabilitation / Transportation Teams- responsible for all engineering related measures and transport for all other teams.
- Social Welfare Team - responsible for all social welfare activities (food, shelter, clothing)
- Decentralized District Teams – Colombo Municipal area is divided into six administrative districts for effective utilization of resources to provide better and quick response on public needs. District teams take responsibility on implementing actions at district levels as site operation teams

Present Status

Colombo Municipal Council has already completed the draft on Emergency Management Response Plan. Accordingly, **Search and Rescue Teams** led by Fire Service personnel carry out immediate response operations and provide skilled operations. If the situation continues for longer period, it might lead to social losses like overwork, work under stress etc. Therefore, a group of 50 volunteers in each district was formulated and trained for basic fire fighting and first aid as a way of supporting the rescue teams. Their databases are maintained.

From the part of **Health and Sanitation**, arrangements were made and available for CMC medical officers to enable them to purchase immediate needs on medicine in addition to the stocks available. The Council is now equipped with seven ambulances. **Rehabilitation functions** are mainly dealt by engineering staff. There are emergency labour gangs belong to Water /Drainage division of the CMC for immediate restoration of services. If these gangs are not adequate during a disaster, district coordinators will organise additional groups in their districts. Many of our sewer lines get submerged during heavy rains due to unauthorised surface water connections to them. The sewerage system malfunctions or completely overflows due to heavy inflow during floods. Further, temporary sheltering locations are not designed for and not equipped with adequate facilities to cater a large influx of public. The electricity power may be get disrupted. Already small portable generators and a few portable water tanks were purchased for Districts' use. **Social Welfare Team** holds the sole responsibility of all social welfare needs of the public, such as food, shelter and clothing etc. Community centers and reception halls belong to CMC and temples and schools on elevated areas are already identified as temporary shelters. Cooked food, which may be thousands per meal, will have to be provided for victims. Suppliers, capable of supplying in large quantities within a prior notice of 3 –4 hours are registered.

Transportation is the main vehicle of all dealings. Although all the arrangements are made for response activities, the entire process will be hindered unless adequate transport facilities are provided. Organising transport was so poor in 1999 floods; some victims refused to accept the food as it reached them vary late. To avoid repetition of such situations, a database of drivers, covered vehicles such as crew cabs and locations of parking etc. were prepared. Physical measures on mitigation of fire risk for all council buildings were primarily identified. The Town Hall, the main building with cultural, social and administrative value for Colombo Municipal Council is on the highest priority. A fire alarm system was installed, portable extinguishers were fixed and direction signboards were fixed as a preparedness measure.

Problems and Future Plans

It is essential to ensure the immediate response avoiding unbalanced performance at various levels and mitigation measures in an organized manner. Lack of trained personnel is hampering the actions. However, we feel the necessity for group training for those who serve in the committees. A group of 10 – 12 officers will have to be trained with a special focus on both man made and natural disasters that are possible in Colombo.

Using records available, flood mapping is now completed using GIS system. With recent urban developments, pattern of flooding has been changed. Therefore, these changes have to be studied to consider on mitigation strategies for Colombo. With different levels of flood situations, which are obtained from the Irrigation Department, the drainage division is studying the vulnerable areas for each situation. Using contour surveys, mapping is being done for decisions on priority areas for mitigation. CHPB has linked the Colombo Municipal Council with National Building Research Organisation (NBRO) for obtaining digitising facilities and contour surveys.

However, taking the message to the community level is now in progress. Under the Health Dept. of Colombo Municipal Council, there are Community Development Councils comprising the people of the area especially in underserved settlements. Their support has to be obtained on voluntary basis. Community leaders have a role to play. Awareness training and subject training will have to be conducted with the Health Education Unit of CMC.

Colombo Municipal Council plans the health, sanitation and infrastructure development in the city as the highest priority. Since there is a lot to be done to convert "Underserved Settlement" into "Improved Settlements", a higher % of funds are allocated for sanitation measures. Although disastrous flooding was not occurred during last 3-4 years, every flood situation was accompanied by epidemics like cholera, dengue fever etc. Public Health Department of CMC has taken actions to mitigate losses providing preventive measures. Compared with other areas, deaths due to epidemics in Colombo in last April – May is only, whereas in other areas it was much higher. However, priority of the decision making changes over the time. Funding for improvement of basic services is a step for improving standards of the public well-being as well as a measure of mitigation. For a purely disaster mitigation project, it is

difficult to allocate funds or find a donor unless mitigation measures are linked as a secondary matter in a main project such as sanitation or drainage improvement.
Coordination with connected external organisations is another problem. This may be due to non-availability of a Solid National Policy and a National Plan for Disaster Preparedness and Mitigation, accepted by all relevant authorities. The National Action Plan involving a broad range of organizations and institutions, both governmental and non-governmental is a need. It should reflect views and priorities of all organizations that can and should have a role in disaster management and risk control. Provincial Level disaster mitigation committees are not available.

Especially in an occurrence of an explosion, CMC found it self as a less important organization except on fire fighting and rescue operations. It emerges the necessity of administrative and legal framework for integrated programmes, approaches and strategies in managing and mitigating disasters. I believe that National Disaster Management Centre and Colombo Disaster Council are two bodies that should coordinate with other institutional emergency management plans of the city. However, Colombo Disaster Council is trying to coordinate with all relevant authorities such as National Hospitals at Colombo, Kalubowila & Ragama on health issues, National Water Supply & Drainage Board on water supply, Ceylon Electricity Board on electricity, Telecom on communication, Sri Lanka Rupavahini Corporation and Sri Lanka Broadcasting Corporation on media, Forces on security etc., for emergency response and preparedness measures. But, the initiatives taken are fading away may be due to changes over the Government, ministries, officials and responsibilities. The void of having a National or regional plan where all stakeholder organizations should come under one umbrella institution still exits.

Colombo Municipal Council and UDA jointly exercise powers for permitting building plans of multi-storeyed buildings. Rules and regulations are weak on exercising powers for enforcement of natural hazards building codes. As the city develops rapidly and many multi-storied complexes are coming up, design and construction of hazard-existence structure is perhaps the most cost effective mitigation measure. Some chemical storage plants are situated in Colombo North. Even a little spillage of toxic nature chemicals might be dangerously affect in short term and long term. Colombo Municipal Council has taken fewer initiatives for preparedness measures of communities who live in adjoining vulnerable areas. Awareness has to be done and the industries should be made mandatory responsible for on and off site plans for safety.

CMC has a database of all volunteer staff trained by the CMC. Although we were planning to issue them identity so that they produce to the police or authorities when they are called was not materialized. Therefore, other than the Fire Brigade staff, CMC officers are not allowed to mobilise at a disaster.

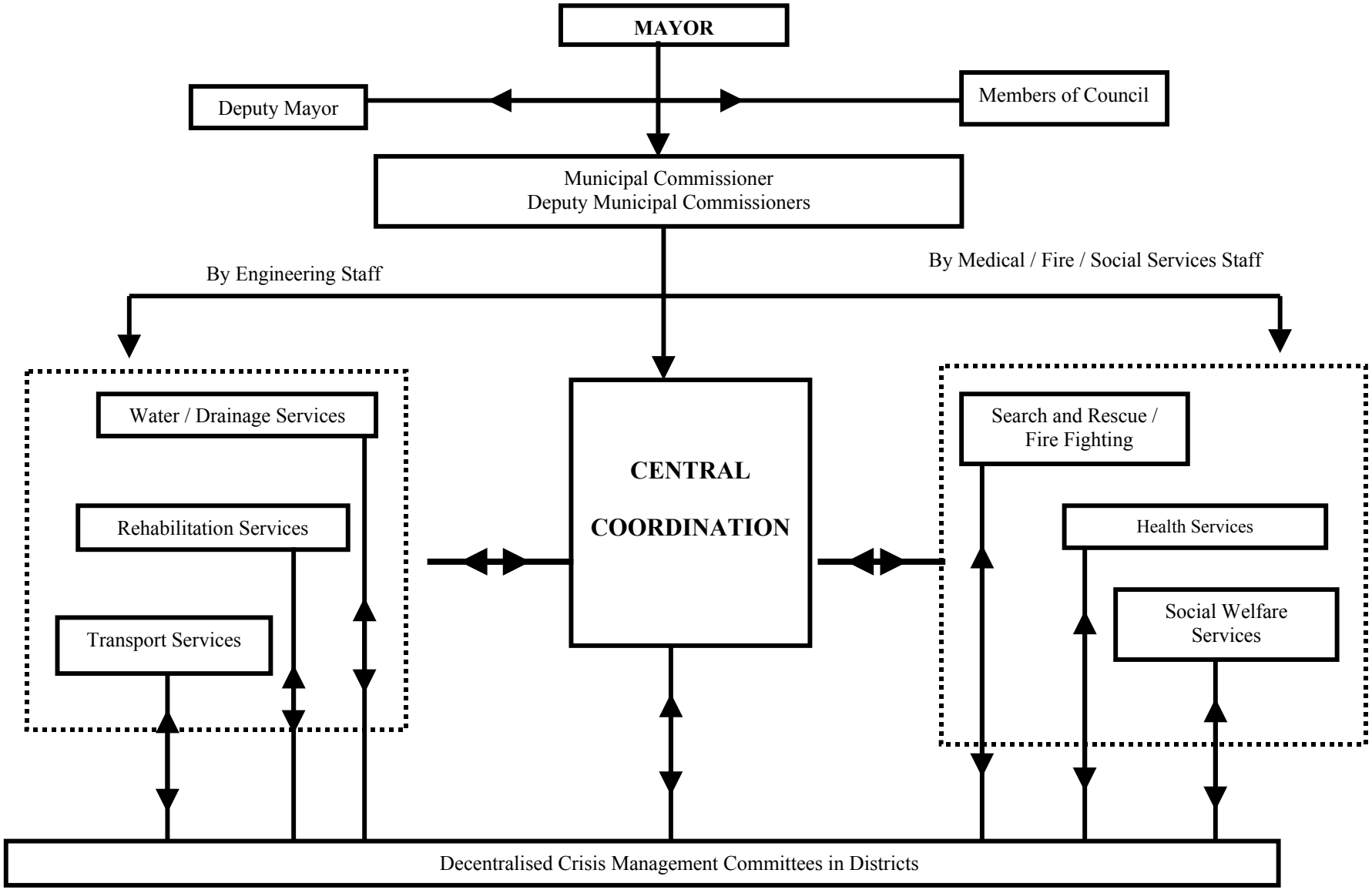
Although many initiatives were taken, many activities came to a halt without initial funding. Crisis Management Committee has recommended making available a number of units of portable toilets with inbuilt cesspits and water tanks, but it was abandoned due to financial constraints. Also the priority of other connected organisations is also in a poor status as they too have their financial constraints and priorities.

Conclusion

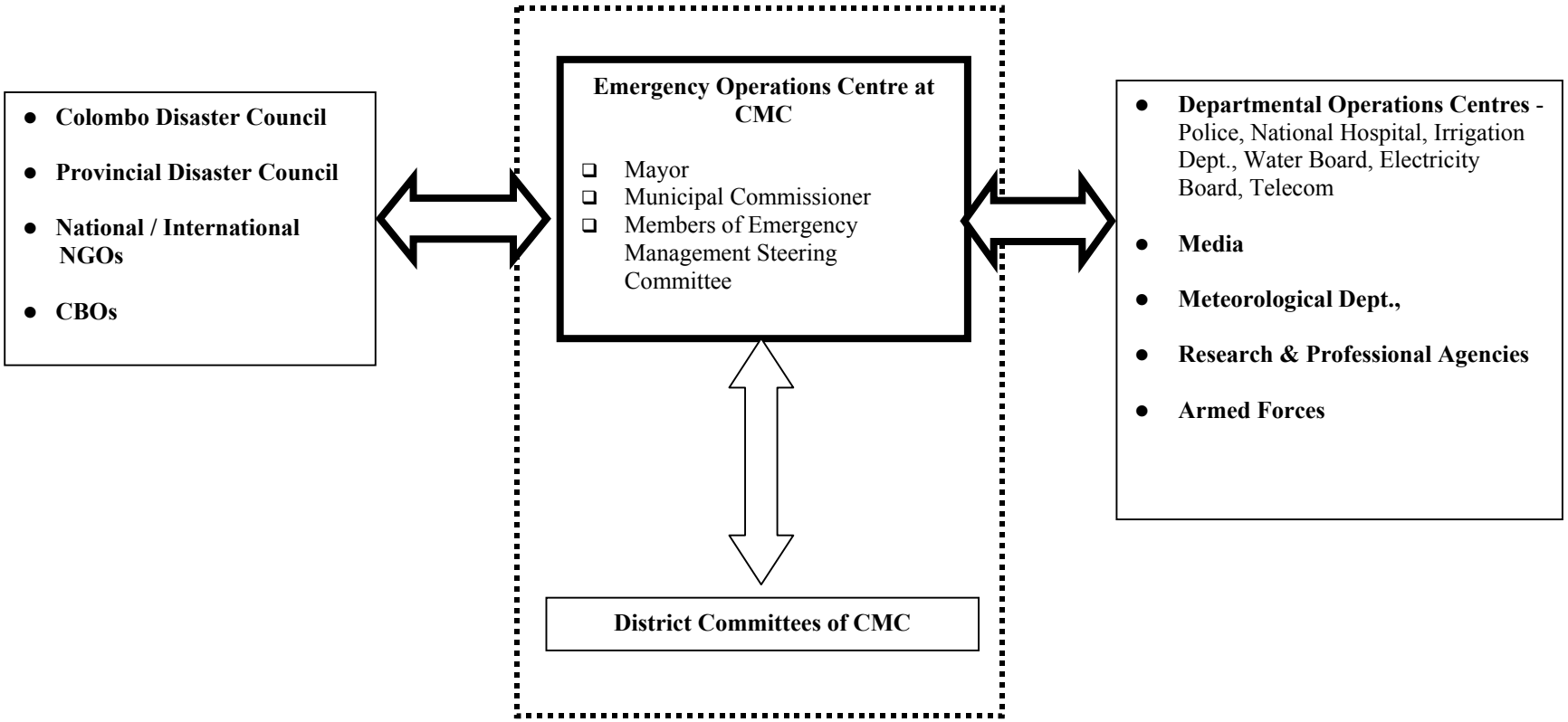
The development increases the vulnerability for disasters. However, in a city like Colombo, the development process is inevitable. Therefore, solutions to be hunted for vulnerability reduction through the development process it self. Disasters do not occur very frequently. People forget the outcome and give less priority. Commitment from Public is very low

Disaster operations rely on the authority and responsibilities of the local authority, government, plus additional authorities that may be invoked under certain conditions. Colombo Municipal Council at all levels will work together; extend its cooperation to meet the challenges and hopes to convert the city to a safer place to live. The support offered by CHPB as a Training Institution is very much acknowledgeable meeting these challenges.

RESPONSE COORDINATION within CMC



RESPONSE COORDINATION with EXTERNAL ORGANISATIONS



THE GREAT HANSHIN-AWAJI EARTHQUAKE MEMORIAL DISASTER REDUCTION AND HUMAN RENOVATION INSTITUTION (DRI): ENHANCING CAPACITY OF MANAGING DISASTER IN LOCAL GOVERNMENT LEADERS

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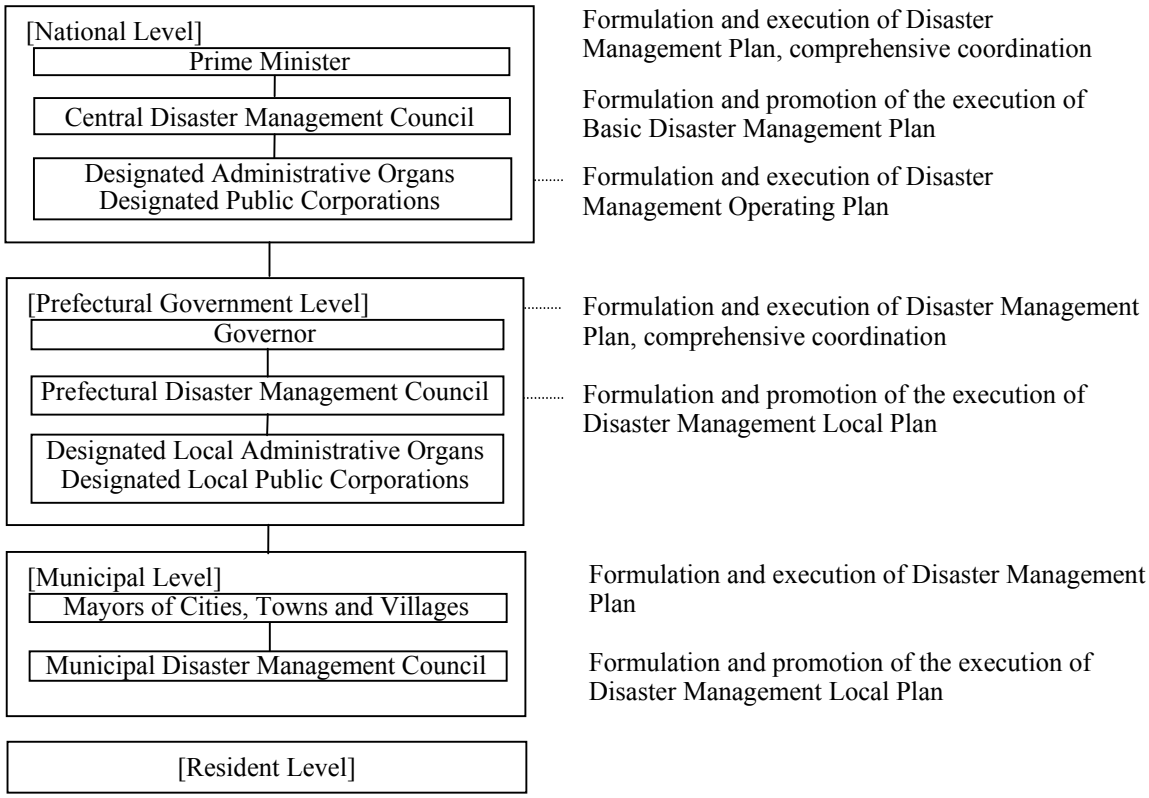
In Japan, the primary responsibility for disaster countermeasures rests with the local municipalities (cities, towns and villages), and the national and prefectural governments become involved according to the extent of the damage.

In the event of a disaster, the local municipalities and prefectural governments enact countermeasures, with assistance from the national government in the wake of a wide-area, large-scale disaster, according to the particular circumstances.

Therefore, local governments bear an extremely heavy and critical responsibility, as their disaster management abilities affect the course of the initial response to a disaster.

Chart: The Disaster Management System in Japan



Circumstances Faced by Disaster-stricken Local Governments in the Great Hanshin-Awaji Earthquake

In the 1995 Great Hanshin-Awaji Earthquake, then-Governor of Hyogo Prefecture Kaihara faced a serious situation:

Due to the massive damage far beyond the control of the governments of Hyogo Prefecture and the stricken cities and towns, coupled with paralysis of information and communications systems, the prefectural government lost its main means of information gathering and was unable to quickly grasp the extent of the damage.

None of the staff had any actual experience in large-scale earthquake disaster countermeasures, since the most recent earthquake to cause heavy damage to the prefecture was the Showa Nankai Earthquake of 1946

Since the facilities, information and telecommunications equipment of the prefectural government as well as its staff were struck by the quake, the government was unable to fully exercise its inherent capabilities.

The governor, who served as head of the disaster countermeasures headquarters, and the other senior officials found themselves in a situation of extreme chaos and lack of information, totally unlike the environment in which they normally exercised their duties. Decision-making in the government immediately following the disaster was hobbled by the notable lack of practical experience and know-how necessary to answer such questions as: “What options are available as countermeasures?” ”What should be given priority in the enormous amount of work to be done?” ”Where should limited resources be directed?” and “What will happen next and how should we cope with it?

The Importance of Upgrading the Capabilities of Local Government Staff

The disaster management staff of local governments in Japan are rarely trained specialists. They generally take temporary charge of such duties by rotation. Therefore, in the event of a large-scale disaster such as few have experienced, there is great concern as to whether local governments are capable of making the appropriate initial moves immediately following the outbreak.

On the other hand, as stated earlier, the local governments play a central part in disaster management in any disaster. Therefore, their personnel play a very important role, and upgrading their abilities is a top priority in the efforts to mitigate the effects of a disaster.

A recent report from the Central Disaster Management Council takes the above into account when it includes the importance of developing human resources “capable of acting effectively” through training and periodic drills for disaster management personnel.

DRI Programs for Fostering Human Resources in Local Governments

In light of the above, the DRI plans to implement three types of human resources development programs targeted primarily at local government officials.

First, we plan to provide a brief, intensive *Top Management Course* for the head managers of local governments, whose knowledge of disaster countermeasures and crisis management is considered key for exercising appropriate leadership in the event of a disaster.

Secondly, we plan to implement two courses targeted at personnel responsible for disaster management administration in local governments.

	Management Course□Advanced□	Management Course□Basic□
Target Groups	Potential leaders of emergency management in the event of a disaster, such as administrative staff of national government-affiliated organizations, local governments and public corporations (director generals in prefectural and municipal governments etc.)	Personnel as described under the Advanced Management Course and their equivalents with only brief experience at their posts (directors and chiefs in prefectural and municipal governments, etc.)
Purpose	To improve the ability to grasp and cope with a complex situation comprehensively and cross-functionally, where various measures are progressing simultaneously in response to a large-scale disaster (capabilities required in a person responsible for disaster management)	To systematically acquire the background knowledge necessary for the Advanced Management Course, such as ideal disaster countermeasures for each sector based on the disaster mechanisms and the experience of the Great Hanshin-Awaji Earthquake.

The curriculum for these training courses is supported by academic experts in various fields in cooperation with practitioners at the United Nations and national, prefectural and municipal governments. The DRI is committed to contributing to the improvement of the disaster management capabilities of local governments through the deepening of practical and comprehensive knowledge of disaster management in local officials and the enabling of highly effective response to disasters.

DRI assistance to local governments for improving disaster management capability

At the DRI, seven full-time research scientists are being developed into comprehensive and practical disaster management specialists through independent research, field surveys and other activities under the guidance of 10 part-time senior researchers consisting principally of university professors.
During normal times, these DRI research scientists provide guidance and advice to local governments on Disaster Management Local Plans, etc., while in the event of a disaster they immediately rush to the stricken area to provide the disaster management headquarters with appropriate and practical advice based on the mechanism of disaster, examples of crisis management at home and abroad, expertise in the group psychology of disaster victims, etc. Through these activities, the DRI is determined to contribute to improving the disaster management capabilities of local authorities.

Other Activities at DRI for Reducing Damage from Disasters

In addition to the above efforts, the dissemination of information and education to the general population is also very important for reducing the damage caused by a disaster.

While the Central Disaster Management Council has been actively discussing the Tokai and Tonankai-Nankai earthquakes that are anticipated in the near future, the Great Hanshin-Awaji Earthquake has already started to fade from public consciousness. Thus, we must continue to call people's attention to the importance of disaster preparedness.

Equipped with an exhibit that passes on the experiences and lessons from the Great Hanshin-Awaji Earthquake to the world as well as to future generations, the DRI bears a grave responsibility to communicate the horrors of a huge disaster by showing the results of an earthquake that actually caused considerable damage, and to broadcast messages about the importance of being prepared for future large-scale disasters.

Furthermore, the DRI is entrusted with international disaster management training for the JICA, putting the lessons learned from the Great Hanshin-Awaji Earthquake to good use to foster disaster management personnel for the central and local governments of other countries.

For this fiscal year, there are plans to provide one-month training programs to disaster management officials from Turkey, Central America and Columbia.

Conclusion

Working in cooperation with the many related organizations described above, the DRI carries out a wide range of human resource development activities based on experiences and lessons leaned from the Great Hanshin-Awaji Earthquake.

We firmly believe that through these activities the DRI plays a part in the development of a comprehensive disaster management policy.

CAPACITY BUILDING TO COMMUNITY VOLUNTEERS UNDER BANGLADESH URBAN DISASTER MITIGATION PROJECT (BUDMP)

Monzu Morshed and Nurul Huda, CARE Bangladesh

Introduction:

Volunteerism in disaster management is now recognized system in all over the world. In 1862 Mr. Henry Dunant wrote a book named "A memory of Solferino" and appealed to all human beings of the world for organizing an impartial voluntary organization with a view to deliver services during distress situation of humanity. Accordingly he organized a voluntary committee with 4 other persons and named on "Committee of Five". With a view to receive supports and assistance throughout the world, they organized a conference on 26th October'1863. Biggest humanitarian and voluntary organization International Red Cross was established in this process.

Under leading string of Mr. Clas Hegstrom, a big volunteer group was organized in 1972 under Bangladesh Red Crescent Society in coastal area of Bangladesh with a view safe people from cyclone. With good reputation the volunteer group of Bangladesh Red Crescent Society has been providing dedicated service to cyclone-affected people since inception. This is a first glorious step of volunteerism in disaster Management in Bangladesh.

BUDMP is also pioneering steps of urban disaster management of Bangladesh. As because volunteerism is a proved system in disaster management as well as good tool for community participation, BUDMP is also duly considered volunteerism in its' implementation process. Actually volunteerism in BUDMP aims to:

- involve community in project implementation process
- institutionalize project concept within the community
- hand over project ownership to community
- make sustainable project intervention after phase out of BUDMP
- generate we feeling, consciousness, awareness, discussion, analysis of issues of common concern
- enable communities demand an access to services offered by government and non-government agencies
- generate young leadership in the society.
- enhance dedication, scarifies attitude among youth.
- collective acquisition of knowledge and skill in varied spheres

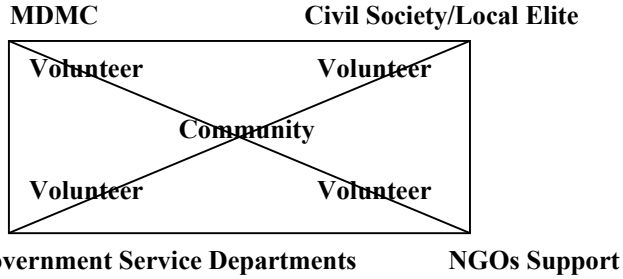
Criteria:

Considering shape of institution, sustainable efforts as well as umbrella program of Municipality Disaster Management Committee, following criteria were set up for selection of volunteers from the community:

a) Youth group and following 50:50 sex ratio.
b) Local and selected from the same community
c) Good physique and mentally sound
d) Good acceptance in the community
e) Keen interest and belief in volunteerism
f) Moderately educated and financially sound
g) Should submissive to rule and discipline of Municipality, CARE and its' PNGO.

Communication Linkage of Volunteer in BUDMP (On the light of MDMC Structure):

Under the umbrella of Municipality Disaster Management Committee, volunteers can play vital role during, after and present situation of urban disaster. A communication network is considered for capacity building of community as well as sustainable volunteerism in urban disaster management in Bangladesh as follows:



The above diagram express that volunteers play like a development catalyst with all stakeholders for mitigating disaster with a) Municipality Disaster Management Committee (MDMC) b) Government Service Oriented Departments under the municipality c) Non Government Organizations Support under the municipality and d) Civil Societies or local elite of the municipality.

Conceptual Area Covered In Volunteer Development:

In the process of defining conceptual areas BUDMP has considered in the light of confluence of dimensions e.g.- motivation, institutional arrangement, government standing order and community participation for volunteer development. Conceptual areas are:

- Basic knowledge pertaining to types and phases of disaster
- Vulnerability assessment, risk analysis and mapping
- Preparation of resource maps and disaster mitigation plan
- Idea of response management (Contingency Planning)
- Methods and techniques of community resources mobilization
- Learning by doing exercise (conduct PRA survey, Simulation etc.)
- Social mobilization process and their involvement
- Networking and liaison with different government, non-government organizations, inter community groups and community based organizations etc.
- Link with civil societies
- Maintenance of community based schemes under BUDMP
- Institutionalization process through involving volunteers with respect to formation of Scheme Implementation Committee
- Development of implementation skill of schemes
- Leadership development
- Creation of gender sensitive environment
- Right based approach on disaster management
- Advocacy mechanism

Methods:

In case of volunteer development BUDMP has been following continuing education process. In spite of imparting formal training, BUDMP team has been nourishing volunteers in learning by doing process both in non-formal and informal ways. Therefore different methods are applied in different situation in their development process.

- Formal Training
- Courtyard meeting
- Focus Group Discussion
- Large Group Discussion
- Study Circle
- Simulation
- Practical assignment
- Demonstration

- Folk Songs
- Semi structure questioning
- Feedback round
- Advocacy etc.

Volunteers Efforts in Community Development:

Volunteers have been rendering services under BUDMP in the following area with respect to community development:

a) Vulnerability Assessment: Volunteers were closely involved with the planning and implementation of hazards mapping, problem identification and prioritization of their own locality. During formulation of structural mitigation planning, volunteers provide vital inputs also.

b) Awareness Campaign: With full enthusiasm volunteers have been provided extraordinary services in the field of awareness campaign. Their activity revels that there is no alternative of young power in social mobilization process.

c) Preparedness and Mitigation Activities: Under community based preparedness volunteers have established linkage with different community based organizations like clubs, cooperative societies etc. and mobilizing urban flood mitigation concept to them. They made bridge between BUDMP team and community in the process of project implementation. In this connection good relationship was established with civil societies and different institutions through their efforts. Municipality Disaster Management Committee took decision to incorporate volunteers of every ward in filed level project implementation committee. With full voluntary zeal volunteers have been performed their responsibilities.

d) Participation of conceptual area: Through imparting necessary information to project management, volunteers have been enriched conceptual development of the project. With their spontaneous participation in different meeting, seminar and workshops related with project, they have been imparting suggestions, opinions and recommendation with respect to conceptual development of the project.

In a nutshell it can conclude that "young power in disaster mitigation" is very much essential as well as valuable resource of community development.

Lessons Learned:

- Voluntary zeal is remarkable among maximum volunteers
- Established gender balanced workmanship
- Congenial relationship between MDMC members and volunteers
- High level acceptance of volunteerism by the community
- Create sustainable efforts through volunteerism
- Volunteers are capable to handle local conflict.