POLICY, LEGAL AND INSTITUTIONAL ARRANGEMENTS

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ABSTRACT

This working paper addresses aspects of the current status of policies and legal and institutional arrangements for disaster mitigation in Asia. It summarizes the experiences of various localities and countries, particularly those in the Asian Urban Disaster Mitigation Program (AUDMP), in formulating and implementing such policies and legal and institutional arrangements, including lessons learned and good practices.

The paper is currently comprised of four sections. An introductory section sets the scene with background information, definitions, scope, and descriptions of various types of policies, legislation, and institutional arrangements, as well as highlights of current policies and arrangements in Asia. This is followed by overviews of the characteristics and elements of strong policy, legal and institutional arrangements. Finally, a series of issues is identified and explored, for instance how to recognize what is working well, how to overcome obstacles, and how to apply lessons learned in one environment to the problems facing another country or community. Several new approaches are identified and described.

1. Introduction

Background and Introduction

There is a compelling and long history of disasters in Asia and resulting reactions and reforms, including policy initiatives, legislative actions, and the creation of new institutions and programs. When things go wrong, public confidence in disaster management systems is shattered and reforms are demanded. Therefore, it is useful to take stock of the status of disaster management policies and systems in Asia, evaluate lessons learned, and identify and promote good practices throughout the region.

In working closely with national and local partners in various Asian countries, ADPC has often been able to identify good practices and facilitate the sharing of information about those practices with partner institutions in other countries. ADPC's two regional programs, the USAID/OFDA-funded Asian Urban Disaster Mitigation Program (AUDMP) and the DIPECHO-funded Partnerships for Disaster Reduction – South East Asia (PDR-SEA), both contain specific components for the promotion of information sharing.

Various ADPC activities and partners have identified the importance of sound policies and legal and institutional arrangements for disaster management throughout Asia. In 1999, the AUDMP Regional Sharing Workshop identified this topic as one warranting further attention, and at its meetings in 2000 and 2001, the Regional Consultative Committee (RCC) expressed the need for organizing a workshop on the topic. Studies of policies, legal and institutional arrangements, and planning processes have been conducted in some countries, and in April 2002, an Asian Regional Workshop was held in Bangkok to share the information already gathered and enhance understanding of good practices and successful strategies. The following building blocks for effective hazard management have been recognized (Britton, 2002):

- Knowledgeable decision-makers and practitioners supported by researchers dedicated to finding practical measures
- Comprehensive assessment of risks integrated into national development plans
- Coordinated practical mitigation framework at national and local levels
- Ready access to advisory and/or warning systems by people most at risk.

Further, it is recognized that both government and civil society must exercise leadership in disaster risk management by incorporating consideration of risk management into routine decision-making, building coalitions and partnerships, and tapping the initiative of local community groups.

Disasters and disaster risk should be understood as more a social problem in a socio-economic and political environment than a technical problem. Indigenous community coping mechanisms need to be harnessed and respected. Governance and how it impacts disaster management (e.g. decentralization, privatization and the role of private agencies) must be understood. And we must look to the future rather than only react to the past (e.g. preparing for the last disaster that occurred).

Definitions and Scope of Policy, Legal and Institutional Arrangements

Policy: "Policy" is defined as a "course of action adopted by a government, business, individual, etc." (*Pocket Oxford Dictionary)* It has also been described as an authoritative statement which typically is intended as a decision rule to guide action, i.e. a statement that outlines desired means for achieving desired ends. It is authoritative in that it comes from a party or parties with sufficient legitimacy to speak on behalf of its constituents on the matter. A policy may consist of or include an allocation or reallocation of resources applied toward the desired end state or set of outcomes, and a policy may focus on input, process, or output values (Alesch, 2001). For our purposes, "policy" will refer to public policies that relate directly or indirectly to hazards and their impacts on humans, their activities, and the natural and built environment. Policy begins as a concept which then is developed into a plan or course of action which is subsequently approved and adopted by a government, community, or other entity.

"Mitigation" is described by Webster as making less intense or severe (from the Latin *mitis* or mild). Mitigation policy, then, is designed to lessen or minimize the effects or impacts of a hazard event, such as an earthquake. The primary goal is life protection (saving lives). Mitigation policy deals primarily with the four basic elements of hazard, risk, vulnerability, and disaster (Drabek, 1991). Policy should have a vision, be guided by a philosophy, and be easy to understand. Other attributes of a good policy are that it is:

- Comprehensive and integrated
- Equitable
- Sustainable
- Efficient
- Flexible (to address emerging needs and concerns)

Legal Arrangements: "Legal arrangements" refers to the framework of laws, executive orders, and other legal instruments that set the ground rules for governmental and non-governmental activities related to disaster mitigation and management. Legal arrangements define authorities, responsibilities, and roles of officials and organizations as they relate to disaster mitigation and management. The legal framework is comprised of statutes and executive acts/orders and implementing regulations that establish legal authority for programs and organizations that relate to hazards, risk, and risk management. These laws may dictate--or encourage--policies, practices, processes, the assignment of authorities and responsibilities to individuals and/or institutions, and the creation of institutions or mechanisms for coordination or collaborative action among institutions.

Institutional Arrangements: The institutional framework is comprised of organizations or institutions, governmental and non-governmental, with a recognized role to play in hazards and risk management, and the mechanisms for coordination among organizations and institutions.

The term "institutional arrangements" incorporates the networks of entities and organizations involved in planning, supporting, and/or implementing disaster mitigation programs and practices. These arrangements include the linkages between and among organizations at the local, state/provincial, and national levels, and between governmental and non-governmental entities, including local community and business leaders. Institutional arrangements for disaster mitigation and management commonly include the establishment of a single entity at each level of government responsible for coordinating such activities and maintaining lines of communication and coordination among the involved entities and with stakeholders and the community.

Scope: The scope of policy, legal and institutional frameworks encompasses all elements and steps in the risk management process including:

- Identify risks
- Analyze risks
- Evaluate risks
- Treat risks (includes planning and preparedness, mitigation or risk reduction [reducing the likelihood or the consequences of the risk], response and recovery, and public awareness and education)
- Communicate and consult
- Monitor and review

The scope includes the policy, legal, and institutional frameworks at both the national and sub-national levels, including state/provincial/district/local governments and non-governmental organizations. Also, it relates to the natural and technological hazards relevant to the region, including the policies, laws, and institutions that deal with specific hazards.

These three elements—policy, legal and institutional arrangements--together form the foundation for a community or society's approach to disaster mitigation. If any of the three is weak, the entire system will be prone to failure.

Types of Policies, Legislation, and Institutional Arrangements

Policies, legislation, and institutional arrangements for disaster mitigation are specific to countries and localities within them. Disaster mitigation policies may focus on any of a number of approaches to the reduction of disaster risk, e.g. control of land use, enactment and enforcement of engineering and building codes and standards, and use of technology for forecasting and warning. However, experience is proving that mitigation policies are more likely to be successfully implemented if they are consistent, integrated with, and linked to other policies and goals of society such as economic and social development and reduction of poverty.

Policies may be (Petak, 1982):

- "action forcing" policies, where a high-level jurisdiction forces action at a lower level of administration
- "attention-focusing" policies intended to promote action to mitigate risk,
- "recovery" policies supporting the disaster recovery process
- "technology development" and "technology transfer" policies in the field of hazards and risk
- "regulatory" policies which establish mandatory requirements
- "financial planning" policies which support risk management processes
- "system management and optimization" policies which affix responsibilities and monitor effectiveness, and/or
- "direct action" policies which authorize direct action by the administration.

Laws at the national or local level, acts, regulations, and guidelines are all forms of legal structures. Law enforcement processes for mitigating urban disaster risk, e.g. in relation to land use plans and their implementation, building codes, engineering design and materials standards, and monitoring and control of construction, are also part of the legal arrangements. Even where policies and implementing mechanisms have been enacted by law, deficiencies in or the absence of enforcement can negate the effectiveness of the legal structure.

Institutional arrangements for disaster mitigation may be established through the legal framework. A central agency may be charged with responsibility for coordination of mitigation efforts, and other agencies may be made legally responsible to carry out specific roles or activities. Institutional arrangements include the involved and responsible organizations, their human resources, funding, equipment and supplies, leadership, effectiveness, and the communication links between and among organizations. In the design of institutional arrangements, we should think about total risk management and how to coordinate with the development process, rather than relying on the response and relief

paradigm. Actual participation by various sectors is needed. In a committee or other mechanism for inter-institutional collaboration, decisions come from combined wisdom, and the process provides for interaction among the members.

Overview of Policy, Legal and Institutional Arrangements in Asia

The laws, institutions, and systems for managing disaster risk in Asia follow certain patterns but no universal model. The traditional approach has been to wait until a disaster occurs, then work night and day to deal with the aftermath. Some societal and religious beliefs foster a fatalistic attitude toward disasters as expressions of "the will of God." But current trends throughout Asia and the world include: focusing more emphasis on pre-disaster mitigation, linking mitigation with ongoing development activities, and forming partnerships between national and local governments and non-governmental organizations to promote risk reduction and disaster preparedness.

In countries with a historical tradition of highly centralized government, the disaster management institutions and systems that have evolved typically are also highly centralized and dependent upon national government institutions and capabilities. In countries where there is a stronger tradition of local power, authority, and autonomy, disaster management systems tend to be more locally driven, relying on support from higher levels of government.

Typically “disaster laws” in Asia pertain primarily if not exclusively to the management of emergencies and emergency relief. Comprehensive, holistic laws for disaster mitigation are relatively rare not only in Asia but around the world. Some countries, such as the People’s Republic of China, do have holistic, comprehensive disaster management laws that can serve as reference points or models. The legal framework for disaster management in Japan is a useful model, because Japanese law has responded well to scientific advances, to the lessons and experiences of the Great Hanshin-Awaji Earthquake of 1995, and to the special mitigation and planning needs of specific key regions. Throughout Asia, disaster laws often establish a central disaster council or committee to coordinate overall disaster response, as well as committees at the district and city or village level (Mattingly, 2002a).

Existing Policy and Legal and Institutional Arrangements: Southeast Asia

Current status and initiatives in the realm of policies and legal and institutional arrangements can be summarized as follows for Southeast Asia and South Asia and at the sub-national level (Mattingly, 2002b).

In Indonesia, in 2001 the national disaster law was extended to cover social unrest, and internal displaced persons will now be covered by the national coordinating body, Bakornas, which has primary responsibility for the functions of coordination, consultation and information. In addition, Bakornas is no longer ad hoc; rather, it is more structured with responsibilities placed with individuals and with more job security and authority. Also, disaster management is one of the major issues discussed regularly at the national level at the Monthly Limited Cabinet Meetings on People’s Welfare, chaired by the President. Positive changes are occurring in Indonesia, although Presidential decrees are not enough and an act is needed.

In Lao PDR, the National Disaster Management Committee was established by Prime Minister’s decree in 1999. Roles and responsibilities are assigned to the director general level rather than ministers to make it easier to implement. Current focus is on development of links and a coordination mechanism within and between disaster management organizations at all levels and the development of awareness and plans. As disasters are rare and not so severe in the country, it can be difficult to get the government’s attention.

The Royal Government of Cambodia (RGC) established the National Committee for Disaster Management (NCDM) in 1995 with the Prime Minister as President of the NCDM. In Cambodia, the continuing need to gain the support of various ministries has been recognized; also there is need for participation in pre-disaster mitigation, not just post-disaster response. Cambodia has developed disaster management plan elements for the preparedness phase, relief phase, and recovery and rehabilitation phase, and the NCDM provides capacity building and briefings for officials, communities, and the armed

forces. The idea is to cover all phases of disaster through the participation of all agencies, dividing responsibilities (such as for damage assessment) amongst different agencies and with community participation for self-help.

In the Philippines, there is a long tradition of formal disaster management systems and structures. The traditional philosophical approach to disaster management was that it was considered an integral part of national defense so it was embedded there. This history is difficult to change, although there is consideration of moving the function to the Office of the President. The National Disaster Coordinating Council was established by Presidential decree in 1978 as the highest policy-making body on disaster-related matters. There are also regional and several levels of local coordinating councils. It has been noted that the existing disaster management infrastructure will be utilized for the emerging anti-terrorism campaign, rather than defining a new structure. An important new initiative in the Philippines is an act streamlining and strengthening disaster preparedness, mitigation and prevention capability and appropriating funds. There is a move to include other agencies and authorize use of a portion of the Calamity Fund for pre-disaster mitigation, which is triggering a dialogue at the local level on how best to use the funds.

Vietnam is heavily impacted by flood, typhoon and drought. These are being addressed through the Second National Strategy for Disaster Mitigation and Management (2001-2010), which has identified mitigation measures and principles and the key tasks of the National Committee for Disaster Mitigation and Management. In Vietnam, a major issue is how to implement and carry out the law and the public education needed so the law will be followed. How can we remind people not to forget disaster effects?

In Thailand there is an inter-institutional committee (the National Civil Defense Committee) as well as the establishment of master plans for disaster management at each level, with support from the national level. Issues currently being overcome include the integration of activities, coordination between NGOs and governmental agencies, replacing outdated laws and improving law enforcement, and preparing the community for a culture of safety and self-help.

Existing Policy and Legal and Institutional Arrangements: South Asia

The Government of Bangladesh has constituted Disaster Management Committees at the national (headed by the Prime Minister) and field levels. The act for disaster management will be placed before Parliament for enactment into law. The most important recent Government policy in respect to disaster management is the launching of the Comprehensive Disaster Management Programme (CDMP). The CDMP is taking a holistic approach to move from response relief to a comprehensive risk management culture through such programs as partnership development, community empowerment, capacity building, research information management, and response management. CDMP seeks to ensure that disaster management is integrated within the core business of government, with strong links with development planning.

Sri Lanka has been working for the past ten years on developing the national disaster management law and plan and overcoming various difficulties. For instance, the National Disaster Management Centre (NDMC) has been established by the government even without passage of the Act, and numerous ministries and organizations have been involved in a collaborative effort to develop the national disaster management plan. When enacted, the law will provide also for the establishment of the National Council for Disaster Management and the appointment of a Technical Advisory Committee, in addition to the existing NDMC. Additionally, mitigation is being integrated into land use and development planning and school curricula.

Nepal's Natural Calamity (Disaster) Relief Act focuses on the post-disaster activities of response and relief to victims. It authorizes His Majesty's Government (HMG) to "give orders to anyone concerned to undertake relief work." The Act creates the Central Disaster Relief Committee (CDRC) at the central level and provides for the constitution “according to need” of Regional, District, and Local Committees. Nepal’s system for disaster management faces significant challenges including the lack of clear cut job descriptions and responsibilities for disaster management, the underlying poverty in society, and the government’s focus on other problems. In this environment it is difficult for the government to

concentrate on disasters that have not happened. Nevertheless, regional disaster committees are expected to be constituted in the near future, and awareness is increasing.

In India, the essential responsibility for disaster management lies with the State Government where a disaster has occurred, and the Central Government may be required to supplement the State Government's efforts. State Governments are autonomous in organizing relief operations and long-term preparedness and rehabilitation measures. At the Central Government level, a High Powered Committee (HPC) was set up at the initiative of the Prime Minister to look into the issue of disaster management planning at the national, state and district levels. The HPC is using a process-oriented and participatory approach to improve the country's disaster management system, working to develop a culture of quick response, strategic thinking, and prevention. At the present time there is no mention of disaster management in national law, but the work of the HPC is a significant attempt at holistic planning. In terms of institutional arrangements, responsibility is now being shifted from the Ministry of Agriculture to the Ministry of Home.

Existing Institutional Arrangements at the Sub-national Level

Disaster management is a provincial/district/local responsibility as well as a national responsibility. The national framework for disaster management influences the local framework, but it need not constrain local action where there is political will. For instance, in India, the new state of Uttaranchal (created in 2002) has created the first state Ministry of Disaster Management and Health in India. It also has a newly created Disaster Management and Mitigation Center as well as other innovative institutional arrangements. Sri Lanka is adopting guidelines for integrated disaster mitigation at the provincial level, and an innovative process for implementing disaster mitigation in one province is being disseminated to other provinces. In Indonesia, the process of decentralization has led to some uncertainty about local autonomy regarding disaster management, but in Bandung the involvement of the Institute of Technology of Bandung (ITB) is helping to provide linkages between subnational and national levels. In Lao PDR, social organizations like the Lao Women's Union and Lao Youth Union, which exist from the national to the village level, are being mobilized to contribute to disaster management. And in the Philippines there are examples of sustainability, leadership and effective work with local officials.

2. The Importance of Policy, Legal and Institutional Arrangements

Choices Impact Disaster Risk

It is quite obvious that conscious and unconscious choices impacting risk and safety are being made throughout Asia on a daily basis, at every level from household to nation to international conglomerate. Local decisions on risk relate closely to the perceptions about risk that prevail in a community. Governments as well as a variety of organizations and institutions that provide funding, research, and/or training are in a position to influence local risk perception and decisions on acceptable risk. These may be international NGOs such as ADPC, or bilateral or multilateral banks like the World Bank or Asian Development Bank, or technical and educational institutions, such as the Bandung Institute of Technology (ITB) in Indonesia. Collaboration between such institutions and governments provides outstanding opportunities to work with local constituencies to increase public understanding of risk, motivate risk reduction actions, and develop local capacity to manage risk. Choices and decisions must be made, both within and outside the government, in the face of complex and competing demands, to strengthen institutional and community capacity for risk reduction and avoidance of catastrophic losses.

Public policies in a broad range of subject areas cause intended or unintended impacts on disaster risk and the environment. Some policies are imposed from above, demanding compliance, while others intend to influence decision-making by promoting or discouraging certain actions. Policies can carry with them the power of the budget by being accompanied by funding to pay for the desired actions or activities, or they may be accompanied by penalties for neglect or non-compliance.

Statutes and executive orders and the regulations that implement them impact risk management by establishing authorities and responsibilities, mandating standards or programs, and dictating land use and environmental protection. Governmental and non-governmental institutions, their capabilities, and linkages all play a role in how a society approaches risk.

Creating the Framework for Risk Reduction

In addition to appropriate public policies, effective legal and institutional arrangements are needed to protect countries, cities, settlements, citizens, environment, economies, and societies from disaster. Deficiencies in legal and institutional frameworks present obstacles to the institutionalization and sustainability of mitigation efforts. The legal and institutional arrangements must facilitate the development of sustainable societies where hazards are taken into account and development is designed and executed in ways that sustain the natural environment and resources. They must anticipate the kinds of changes in society and the environment which impact disaster risk, and they must welcome the participation of non-governmental sectors including businesses, non-governmental organizations, and community groups.

A strong central agency for disaster management is a key element in the institutional arrangements for disaster management. It provides an important focal point for the management and reduction of risk and an efficient response to emergencies. Successful nodal agencies provide a coherent approach to disaster management and a common framework for coordinated mitigation, preparedness, response, and recovery activities. It is important that they demonstrate leadership, develop professional competence, and earn the confidence and support of the chief executive (president, prime minister), other departments/ministries and stakeholders.

In reality, however, central agencies assigned risk management responsibilities are often lacking in adequate resources, leadership, or commitment in regard to managing disaster risk; or they may have other more high-profile or high-priority responsibilities that take precedence over managing disaster risk.

For instance, in Nepal, the Ministry of Home (MOH) is defined as "the apex body in relation to disaster management in Nepal." The scope of MOH's responsibilities includes coordination of preparedness, rescue, relief, mitigation, and rehabilitation and reconstruction. However, its capabilities and resources do not correspond to this wide range of risk management responsibilities including land use and construction control, whereas Nepal's National Planning Commission (NPC) could potentially play a big role in risk reduction policy and funding yet it is bypassed by national law in regard to risk management.

The current situation in many other countries is similar. For instance, in Sri Lanka, the nodal agency for disaster management is the agency charged with responsibility for disaster relief, the Ministry of Social Services. When the officials responsible for disaster management in Social Services attempted to get a disaster law enacted to centralize authority for disaster planning with the Ministry, the Ministry of Defense opposed it. Defense stated that they are in charge of planning and response to civil war-related and terrorism-related disasters, so Social Services cannot be in charge of all disaster planning. Therefore, the disaster law has not yet been enacted. Consensus is also lacking over what ministry should be responsible for the coordination of mitigation programs and activities.

Anticipating the Future

The natural and built environment is constantly changing, and the threat posed by various natural and technological hazards is constantly changing as well. Therefore, policies must anticipate unpredicted changes and be flexible, dynamic, and adaptable to new knowledge and environmental conditions. Furthermore, disaster occurrence is a dynamic and uncertain process, and therefore the legal and institutional frameworks to deal with them must be geared to uncertainty and oriented toward the future. Lessons can be learned from the past, but the future will be different. The future is not the past repeated. So, the framework for disaster management and mitigation must anticipate ambiguity and be capable of change and growth, and it must facilitate community as well as government contributions to risk reduction.

3. The Elements of Policy, Legal and Institutional Arrangements

Sustainable Policy Implementation

Policies for coping with hazards and disasters have traditionally been organized conceptually around a cyclical process with the four stages of preparedness, response, recovery, and mitigation. Their aim has been to reduce hazard-related losses of lives, injuries, and social and economic disruption. Mitigation refers generally to the policies and activities that will reduce an area's vulnerability to damage from future disasters (Mileti, p. 23). Some mitigation policies and resulting actions are currently being questioned as to their overall effectiveness. For instance, a structural measure such as a dam or levee designed to keep the hazard away may actually be postponing losses that will be more catastrophic when they do occur. A community located below a dam may continue building as if there were not risk of flooding, yet floods can and do occur that exceed the design capacity of the dam. But now, more people and buildings are at risk (Mileti, 24-5). Therefore, effective hazards and disaster management policies need to take into account the natural environment and societal attitudes and needs.

The advantages of clear policies are (Rego, 2000):

- Demonstrated commitment and lead by the government
- Foundation for legislation, regulations and plans
- Basis for sound organization and allocation of responsibilities
- Optimum utilization of resources, and
- Demonstrated competence.

Sustainability: Likewise, mitigation policies must be linked to development in ways that make both "sustainable." Sustainable development is defined by the World Commission on Environment and Development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (quoted in Mileti, p.29). The concept includes inter- and intra-generational equity; that adequate standards of living for all people should be possible; and that economics, ecology, and social equity are inseparable (p. 29). Policies that help to reduce losses from disasters should also help to fuel a nation's or community's movement toward social, economic and ecological sustainability.

Sustainable development encompasses such mitigation policies as land use planning and development practices that protect the environment and natural and human resources. Sustainable hazard mitigation will ensure that routine decision-making, particularly in regard to development, takes hazard and risk management into account. Therefore, implementing mitigation policies is a natural and integral element of the strategies necessary to achieve sustainability of communities and nations.

Institutionalization: For mitigation policies to make an impact, they must be constantly taken into account in routine decision-making and implemented through a variety of strategies, programs, and actions. In other words, they must be institutionalized. "Institutionalizing" mitigation describes integrating it into a society's laws, practices, and customs. Institutionalization has two complementary aspects at the national, district, or local level: (1) building lasting capacity and (2) building lasting constituencies for risk reduction. Institutionalizing mitigation depends on building the capability and confidence of institutions and organizations to plan and implement the risk management actions that make the most sense in their distinct reality and local environment. Local institutions--NGOs, governmental agencies, and the private sector--can be empowered to reduce risk through training and by providing them access to scientific and technical information and to workable strategies and solutions.

A wide range of factors influences the institutionalization of mitigation, including: trends in urbanization, governance, and decentralization of authority; linkages with urban development and environmental protection; social, cultural and physical factors affecting vulnerability; and community attitudes and values. The nature of the legal framework and the status of institutional capacities and capabilities also have a major influence.

The Value of Legislation

The value of legislation establishing a solid legal framework for disaster mitigation and management can be summarized as follows (Rego, 2000):

- It provides a formal basis for disaster countermeasures generally, formally supporting plans, organizational arrangements, preparedness measures, response actions, and recovery and reconstruction programs.
- It allocates major responsibilities in legal form, which helps to secure their proper implementation.
- Legislation can be made to have a uniform national effect, thus ensuring that all levels of the national counter-disaster structure receive the full benefit of its support.
- It does not need to be complicated to be effective. It can provide common sense backing for common sense requirements.
- Legislation can provide a wide measure of protection for governments, organizations and individuals who may be affected by a disaster.
- Disaster legislation can augment and supplement other related legislation related to environmental protection, economic development, etc.

Other key attributes of effective legal arrangements for disaster management include:

- Clear mandate and roles, including line of command and coordination, within political units
- Integrated and comprehensive and hazard specific
- Incorporated in the law of the land/constitution
- Sensitivity to indigenous customary law
- Implementing rules and regulations
- Appropriate sanctions and enforcement mechanisms
- Recognition of collateral law, which may include mitigation and other aspects of DM components
- Explicit provision for financial support
- Sub-national legal instruments sensitive to local content
- Integration into national development framework and plan
- Community participation in the planning, implementing, monitoring and evaluation

If there are serious deficiencies in the legal arrangements for disaster mitigation, and as a result, mitigation implementation is hampered, these deficiencies can be addressed by:

- Creating consensus for new institutional arrangements and plans that overcome the law's deficiencies, and/or
- Proposing new legislation and generating institutional and political support for its passage.

By creating a new system of institutional arrangements and plans with the participation and support of the stakeholders, a firm base of support is generated for new legislation.

Often it has been a disaster that has served as the triggering mechanism for the passage of needed legislation. In Colombia, the destruction of the town of Armero caused by the 1985 eruption of the El Ruiz volcano resulted in national legislation establishing a national system for disaster management. The legislation also established a local level system through a requirement for Inter-institutional Committees for Risk Mitigation and Disaster Preparedness, headed by the elected governors and mayors. These committees have become the focus of efforts in risk reduction, prevention, and emergency response.

A review of the disaster legislative experience of Indonesia, the Philippines, and Malaysia (Rego, 2000) revealed the following conclusions:

- Laws were initially enacted in response to disaster experiences and subsequently elaborated and revised over time based on practical experience.

- Laws define the various roles played by ministries and departments in specific aspects of disaster management.
- Laws establish mechanisms for multi-departmental coordination in all phases (pre-, during, and post-disaster).
- Laws establish committees at the highest to lowest levels of administration, with specific responsibilities and roles.
- The committees established at sub-national and local levels assign disaster response and relief tasks to relevant organizations based on their normal functions, e.g. medical, food, shelter, transport, and other needs of a disaster-impacted population.

A Core Function of Government

Governments exist to protect the rights and welfare of their citizens and to address common societal and economic goals. They must generate public policies to serve the public good and then promote and/or manage the implementation of those policies. As their most important function is to ensure the safety and well being of society, disaster management is a core function of government and should be explicitly recognized as such.

Governments at every level have special obligations toward the citizens they represent in regard to disaster risk. Governments must provide leadership in safeguarding lives, institutions, the physical infrastructure and the environment from disasters. In terms of providing security and protection to citizens, governments must also deal with other threats, such as crime, terrorism and civil disorder, in addition to the threat of a natural or technological disaster.

It must be recognized, however, that "government" encompasses a wide range of institutions and agencies, executive and legislative branches, elected and appointed officials, full-time and part-time employees, and permanent and temporary employees. About all that the various elements of government have in common is that they work for and serve the interests of the public. Different groups and agencies have different missions and goals and are motivated by different influences. Therefore, all of government does not necessarily recognize that disaster management is one of its important core functions, and it is necessary to build awareness and commitment to disaster risk reduction throughout governmental institutions.

Governance and Institutional Arrangements

Although government is clearly mandated to provide leadership, policy, and legal and institutional arrangements to protect society from disasters, disaster mitigation is not purely a governmental function.

Government consists of powers, authorities, laws and regulations, elected and appointed officials, and many kinds of organizational entities such as ministries, departments, agencies and institutions that may be autonomous or semi-autonomous. Government is a system by which a State is governed as well as a body of persons who govern a State. To govern is to rule or control with authority, to conduct the policy and affairs of a people, and to determine courses of action.

Government is also a complex web or series of webs of relationships among governmental entities and officials at and among various levels, from international to national to state/provincial/district and local. These relationships may be formally institutionalized in written agreements, protocols, or organization charts. Others may be informal and based on mutual understandings among individuals; or they may be a combination of formal and informal elements. And they change over time.

Typically, authorities, functions, and responsibilities of various governmental entities have some basis in law or other legal documents; however, it is quite common for there to be areas that are unclear, where there is overlap in responsibilities or functions, or gaps where no one entity is clearly responsible. Often there can be disagreement or competition among governmental entities at different levels or at the same level. For instance, in the area of urban development, what authority does a local agency have as compared to a state or national urban development department? This will vary based on the political and legislative history of the country, the relative strength of various levels of government, and other factors.

The basic thought is that governmental authorities and responsibilities are never as perfectly clear and well defined as we may wish.

There is no ideal model for the best administrative structure to encourage, regulate, coordinate, and implement disaster management and mitigation. All structural models have advantages and disadvantages. Some of the considerations include (ADPC, 2000):

- At what level is the administrative structure being thought of? National/federal, state/province, region, metropolitan, or local/city level?
- What are the boundaries, jurisdiction, powers, and size of the overall administrative structure of the governmental level or entity?
- What is the range of responsibilities to be assigned to the entity; for example, will the full range of disaster management tasks be allocated (e.g. hazard and risk assessment, mitigation, planning, preparedness, response, recovery and reconstruction, public awareness and education)?
- What are the capabilities and potential capabilities of the entity?
- Will the entity have an appropriate and adequate legal basis and authority to carry out its responsibilities?
- Will the officials and other individuals in the entity have the willingness, motivation and commitment to overcome the challenges in disaster management and mitigation?

While there is great variation in the possible administrative structures for disaster management and mitigation at the various levels of government, there are certain constant principles of good management that apply.

1. The lines of authority and basis for authority must be clear.
2. The lines of reporting must be the shortest possible and clear.
3. Individual responsibilities and authorities should be understood by everyone concerned.
4. Authority to act should be delegated as close as possible to the level where action must be taken.
5. Every function to accomplish the mission should be assigned to a responsible party.
6. The organization should be flexible overall but firm in the achievement of its objectives.

The organizational structure for mitigation may be different from that for overall disaster management responsibilities. Different agencies, authorities, and activities are involved. Mitigation must be carried out by many already existing governmental entities and organizations, based on their missions, capabilities, and resources.

Importance of Role Clarity and Linkages

Assignments of functions and responsibilities among ministries and other organizations need to be accepted by all the involved entities and formalized explicitly through disaster legislation, implementing regulations, or a national disaster/emergency management plan that carries the force of law. In the United States, at the federal level the Federal Response Plan (FRP) assigns responsibilities to federal departments and agencies and to the American Red Cross, and each agency head has affixed his/her signature to the plan. In the State of California, responsibilities are assigned in a state plan, and in Colombia, assignments are made in a national plan that has the force of law.

A common inter-institutional arrangement (coordinating body) to provide for inter-agency coordination is a standing interagency committee or council that meets regularly and pursues an action agenda. Most such committees or councils are concerned primarily or exclusively with coordinating emergency preparedness and response activities, rather than being oriented toward total risk management, including mitigation and/or reconstruction programs. Typically the greatest difficulty with any such committees or councils is sustaining their interest in the absence of a disaster. Nevertheless, successful models do exist. In Japan the Central Disaster Prevention Council is chaired by the Prime Minister, with the Minister of State and other officials and technical experts as members. The CDPC deliberates important matters concerning disaster prevention including formulating and promoting the execution of the Basic Plan for Disaster Prevention.

In the United States, the City of Los Angeles has created by ordinance (local law) an Emergency Operations Organization, an Emergency Operations Board, and a Department of Emergency Preparedness to centralize the direction and control of local emergency preparations, response and recovery, and to define the duties and responsibilities of City departments, other organizations, and citizens for the protection of life and property. This and other successful inter-institutional models reflect the following attributes:

- Indisputable legal basis and mandate
- Top-level support from the government's chief executive (Prime Minister, President, or Mayor) and the chief executives of the institutions
- Proactive leadership
- Strong core group and secretariat
- Incentives for action.

4. Identification of Issues and Challenges

1) Learning Lessons: What Is Working and Not Working

Disasters are increasingly recognized as the result of interactions among the physical environment, people, and the built environment; the growing losses around the world from disasters relate to the increased complexity of the human and physical systems and their interactions. Increased settlement of hazardous areas destroys local ecosystems that otherwise would provide protection from natural hazards. And many efforts to mitigate have actually increased risk by exposing more investment. It is necessary, therefore, to collaborate with development experts to address the root causes of vulnerability, such as overgrazing, deforestation, poverty, and uncontrolled development, and adopt policies and programs that reduce vulnerability. Recognition of these lessons learned helps to point the way toward more successful policies and legal and institutional arrangements for disaster management.

Observations have been made by social science researchers, as well as direct participants in disaster management policy implementation and related activities, regarding which policies, laws, and institutional arrangements appear to be working or not working effectively, and why. While there can be commonalities, the specific situation varies completely from country to country and locality to locality. The factors influencing "success" are many and varied; what works well in one circumstance may be an abject failure in another. Nevertheless, certain themes may be generalized, as follows (Mattingly, 2002a, and Mileti, 1999):

1. Human activity and careless development are increasing risk at an alarming rate, putting more lives and investment in danger.
2. Many strategies to manage hazards have followed a flawed model: one of studying the problem, implementing one solution, and moving on to the next problem. This model views hazards as static and mitigation as an upward, linear trend. But this is simplistic and unrealistic.
3. Events have shown that hazards and disasters are not problems that can be solved in isolation, and traditional linear models are not adequate. We need to link hazard mitigation with natural resource management and economic and social resiliency.
4. Disaster management systems that focus on response and relief are inadequate; while response systems must be improved, greater focus on mitigation is essential.
5. Existing institutions charged with response and relief are generally ill-equipped for broader risk management responsibilities, but they often resist efforts to assign mitigation responsibilities to other institutions or new mechanisms.
6. Usually it takes a combination of "top-down" and "bottom-up" approaches to effectively manage risk and disaster response and recovery. National government resources, guidance, leadership, commitment, and technical assistance are needed, while local governments and communities must contribute the political will to focus attention and scarce resources on disaster preparedness and risk reduction.
7. Currently there is a strong focus on trying to create within communities the interest and will to deal with risk and preparedness. This approach emphasizes tapping the initiative of local community groups rather than relying on local government. Communities traditionally rally

around each other when disaster strikes; community-based disaster mitigation aims to unleash that cooperative spirit and energy before the disaster. These programs contribute a sense of community empowerment and have had considerable success in the Philippines and elsewhere.

8. An important current emphasis is on creating sustainable partnerships, between levels of government and among government and business and non-governmental organizations (NGOs) and community groups, particularly at the local level. This is not easy, as different groups have different interests, agendas, and missions, and they are not easily integrated.

Lessons learned from recent experience indicate that the following elements are needed for effective disaster risk management (Britton, 2002):

- An informed community
- An integrating agency
- Responsive hazard information providers
- Partner programs, and
- A culture of prevention to guide the avoidance of hazards becoming disasters.

2) Implementation and Institutionalization

Common barriers to the implementation of strong disaster management practices include: inadequate political will, inadequate institutional capacity, and inadequate legal framework establishing clear authorities and responsibilities and penalties for non-compliance. Often, there does not exist a legal or societal mandate from stakeholders to evaluate existing public policies or to create a national disaster reduction strategy or make cultural changes related to mitigation. Additional obstacles are the political influence of landowners and developers, societal disregard for government policies and regulations, governmental disregard for policies and regulations established by other governmental levels or agencies, graft and corruption, economic factors, and a perceived or real lack of viable alternatives.

With all of this in mind, the complexity of implementation and institutionalization becomes readily apparent. Some governments simply lack the organizational capacity for implementing risk reduction strategies, and developing this capacity requires sustained, long-term efforts. Long-standing policies promoting mitigation or even laws mandating mitigation practices may exist 'on the books' but be completely disregarded.

3) Ensuring Coordination

Another issue is creating connectivity between policies, institutions, and plans at the national, provincial, and local levels as well as clear roles and responsibilities at each level. A national disaster management plan has been proposed in Sri Lanka, and it is the product of work by different organizations, and planning is also ongoing in certain provinces and localities. In Bangladesh there has been success in involving both the government and the community in the planning of the National Environment Management Action Plan. In Vietnam there are different plans for three regions, and coordination with bordering countries also has to be taken into account. In the Philippines, there are existing mitigation and contingency plans, but it is noted that there is continuing need for testing of plans, training of professionals, and acquiring adequate resources. In Indonesia, the government is now paying more attention to disaster management, which provides both opportunity and challenge. Bakornas is in the stage of preparing disaster management plans and moving from response to preparedness and mitigation. The idea is to include the participation of the community and NGOs in the new structure.

4) Decentralization and Devolution of Powers, Authorities, and Responsibilities

A country's constitution and laws provide the framework for its philosophical approach to disaster management. A major factor is the degree of decentralization of authority to sub-national levels of government such as prefectures/states/regions and municipalities. The disaster management model which has evolved in highly centralized governmental systems is generally highly centralized and dependent upon national government institutions and capabilities. In many countries, however, there is a drive toward decentralization, i.e. devolution of authorities and responsibilities from higher levels of government to lower levels of government.

Organizing for mitigation at the sub-national level is affected by the national system of government. This system might be (1) centralized, (2) dispersed, or (3) polycentric. When mitigation planning is generally centralized at the national level, this may result in mitigation being handled as a national-level function throughout the country, with corresponding lack of activity or a sense of responsibility and authority at the lower levels of government. In this case, one possibility is to integrate representatives of national agencies with those of corresponding or related sub-national organizations on a mitigation council, board or committee to implement national policy in ways that are sensitive to the local reality.

When responsibility is delegated by the national government to sub-national levels, various organizations at sub-national levels may engage in mitigation, e.g. water resources, irrigation, highways departments, etc. In this case, the state or local government should bring together representatives of the various agencies into a mitigation council or board. A polycentric organization is one comprised of loose groupings of urban councils or other entities, for which there may be separate or combined agencies to deliver urban services, including those affecting risk. In a polycentric form of governmental organization, collaboration and coordination is especially critical.

5) Local Autonomy and Capacity

In many countries, local governments generally do not possess the authorities, resources, expertise, and political commitment necessary to effectively deal with disaster risk. There are currently, however, training and capacity-building programs active in Asia and Latin America designed to create awareness and capacity for managing risk at the local community level. The existence of these programs reflects a growing recognition of the need for and potential effectiveness of local efforts to manage local risk, such as those that are underway in Japan, the U.S., and New Zealand.

In Indonesia, with the new law on autonomy introduced last year, the government is recognizing the uniqueness of different areas. There are different perspectives from different provinces on how to structure for disaster management at the provincial level, so Bakornas will involve various people in structuring the new provincial organizations. Also, it is introducing a new guideline for disaster management and drafting a technical guideline for emergency plans with the assistance of the Bandung Institute of Technology (ITB).

Nepal's governmental structure as a constitutional monarchy has a very centralized administrative structure, with most responsibilities and resources residing with the ministries of the national government. Districts are administrative subdivisions of the national government and the chief administrative officer of the district is an appointee and employee of the national government's Ministry of Home. Movement toward decentralization and devolution of powers to local bodies in Nepal was established in principle in the 1990 Constitution, but the law implementing the principle was only passed in 1999. The Local Self-Governance Act of 1999 provides for the devolution of powers, responsibilities, means and resources to make local bodies capable and efficient in self-governance, with emphasis on public participation and accountability. Even under the Act, however, His Majesty's Government (HMG) may give necessary directions to local bodies, and it is the duty of local bodies to abide by those directions. Local bodies are also still quite dependent on annual grants from HMG, and they look to the concerned ministries to provide necessary assistance to make the local bodies technically capable of carrying out their programs.

In Japan, the Constitution guarantees local autonomy, and the Local Autonomy Law outlines what responsibilities are assigned to local bodies and what responsibilities are reserved to the national government. Nevertheless, the delineation of responsibilities in Japan is not as distinct as in the U.S., and there is more integration and coordination among national, prefectural and local government agencies than in the U.S (Tobin, 1999). The national government in Japan exercises authorities that in the U.S. are split between the federal and state governments.

6) Integrating Disaster Management into All Levels of Society

How do we ensure the protection and involvement of all sectors of the government and society? How do we bring the disaster management concept into a school, for example? In Lao PDR, it is being done

using monks. This is successful because religious leaders command a lot of respect in the community. In Lao PDR disaster management is being linked with larger issues of development, for instance the national goals of zero deforestation and achieving 50% of the population out of poverty. Also, suggested plans and activities are discussed with the provincial and district levels and with NGOs. In Bangladesh traditional healers, folk singers, and religious leaders have been enlisted to inform the public about disaster risk. It is noted that government ministers do not like to talk about something that is not happening (i.e., a potential disaster). However, this reluctance to plan is not purely the domain of the government but rather occurs in other organizations as well. Also, it is necessary to create understanding, not just awareness, of the importance of planning, preparing, and coordinating efforts.

7) Anticipating Change and Dealing with Uncertainty

As the environment is constantly changing, and the threat posed by hazards is constantly changing, the policies, laws and institutional framework to deal with them must anticipate changes and adapt to new conditions. They must be geared to uncertainty and oriented toward the future.

8) Additional Issues Related to Policies

The participants in ADPC's Asian Regional Workshop on Policy, Legal and Institutional Arrangements, and Plans for Disaster Management in April 2002 identified the following as some of the major issues related to mitigation policy:

1. How to address the challenges of reform and change
2. Hazard analysis as a fundamental mechanism: approach and level
3. Degree/acceptability of [level of] risk reduction
4. Developing a holistic approach
5. Changing the values, attitudes and behavior of public officials/policy makers
6. Community empowerment
7. Poverty alleviation/development and disaster
8. How to use existing political clout
9. How to look to the future and create legislation that is not reactive to the last disaster
10. How to keep decisions during disaster time on track with sustainable policies
11. How to communicate effectively with the public and public officials so disaster management is understood and appreciated and provided resources

A further, very significant issue is how to ensure that mitigation is explicitly integrated into each country's multi-year development plan. This is a major step in achieving the actual funding and construction of mitigation projects as well as the incorporation of mitigation measures and provisions into all development and construction projects. In Sri Lanka, mitigation is currently being integrated into physical planning policy. The proposed National Land Use Policy, which is being circulated for public comment, includes disaster mitigation, and disaster risk management is being integrated into some school curricula.

9) Additional Issues Related to Legal Framework

Probably the single biggest current issue related to the legal framework for disaster mitigation and management is centralization versus decentralization as a legalizing framework. How are governments incorporating the legal framework for disaster management in the move toward decentralization from the national government to provincial, district, and local governments?

Other issues related to legal framework are noted as follows:

1. Presidential decrees are insufficient; laws providing a strong legal basis are needed
2. Role clarity is required, especially for implementation and enforcement
3. Legal and institutional arrangements are often based on a long history that is difficult to change
4. Need for dialogue on using national calamity funds for pre-impact activities; (re)allocation of resources for disaster mitigation and management

10) Additional Issues Related to Institutional Arrangements

There are many vexing issues in the area of institutional structures and arrangements for disaster management. Those that were identified at the Asian Regional Workshop on Policy, Legal and Institutional Arrangements, and Plans for Disaster Management are summarized below:

1. How to achieve coordination, cooperation and collaboration between agencies; how to overcome the lack of trust
2. How to create and maintain information-sharing and communication networks within and between groups and organizations (government, NGOs, the community)
3. How to achieve and sustain leadership in governance
4. How to accommodate the expanding role of disaster management agencies associated in part with changing environment and multi-hazard setting
5. National disaster management organizations are often small agencies with difficulty in providing good career/job status; need to earn recognition and respect
6. Need for linkages between levels of inter-institutional committees and master plans
7. How to integrate top-down and bottom-up approaches
8. How to reconcile the complementarity between governmental and NGO capabilities; need to define NGO responsibilities
9. How to share power between government and the civil sector
10. How to remove existing institutions to make way for new organizations; how to reformulate from a command system to a coordination system
11. How to clarify confusion regarding the roles of various organizations
12. How to ensure that disaster management is part of every level of government
13. How to transfer the best of what is working in one country to the environment of another country

11) Need for Effective Monitoring and Evaluation

Monitoring and evaluation processes need to be an integral part of the policy, legal and institutional system. Regardless of financial constraints, some energy and resources need to be devoted to the evaluation and assessment of the effectiveness of existing arrangements and the implementation of existing policies. This is simply a needed decision-making and management tool. Experts observe that there is no single correct way to carry out evaluations; instead, many different approaches may lead to success. The terms monitoring and evaluation functions are defined in the following way:

- *Monitoring* is observing performance in both qualitative and quantitative terms through collecting information; interacting with collaborators and stakeholders; and participating in workshops and other relevant meetings.
- *Evaluation* is the activity of reaching conclusions regarding the quality of performance in achieving desired goals and objectives in meeting the needs of society.

A monitoring and evaluation framework should include basic criteria for judging the success of the overall system and its components. The criteria should facilitate the monitoring of progress consistent with the overall vision, mission and goals. Many monitoring and evaluation frameworks rely largely on a self-assessment procedure.

New Approaches

Canada: Canada has recently taken steps to expand the role of its national disaster management agencies to incorporate a stronger focus on mitigation and integrated risk management. In February 2001, the Prime Minister of Canada announced the creation of a new Office of Critical Infrastructure Protection and Emergency Preparedness. The new office encompasses the existing functions of the existing Emergency Preparedness Canada as well as being charged with developing and implementing a

comprehensive strategy for protecting the country's critical infrastructure. It is expected to build strong partnerships with other ministries, local governments, the private sector, and NGOs.[1]

New Zealand: In New Zealand, a Review of Emergency Services completed in 1996 led the New Zealand Government to determine the need for change in the country's emergency management arrangements. The government decided to replace the existing Ministry of Civil Defence with a new Ministry of Emergency Management (and Civil Defence), with responsibility for establishing a new nationwide system for incorporating risk management processes into national and local decision-making. The new framework, for which the central government is responsible, is based on principles of individual and community responsibility and self-reliance. The framework is also based on a risk management approach (analyzing, assessing, and treating risk through an open process involving stakeholders) and risk management standard developed jointly by New Zealand and Australia.

This decision to revise its entire disaster management system was made in New Zealand without a major disaster occurring. The new disaster act was passed in April 2002. It recognizes volunteer organizations, local handling of emergencies, and creates mechanisms for inter-governmental coordination. Emergency management is recognized as part of the core business of both local and central government. There are two primary institutional mechanisms for implementing this new framework in New Zealand. The mechanisms at the local level are Emergency Management Groups (EMGs), which are bodies of senior executives who are accountable to local authorities and are authorized to commit all relevant local emergency management agencies. Thus, the EMGs bring together representatives of neighboring localities to coordinate emergency management functions. The central government mechanism is the new Ministry with a broader range of risk management responsibilities than its predecessor.

United States: Disaster law in the United States is evolving in tune with changing strategies and needs, but it tends to be fragmented rather than holistic in approach. The Disaster Mitigation Act of 2000 revised existing law to add new emphasis on mitigation and local community involvement as well as creating a National Pre-disaster Mitigation Fund. The United States system for disaster management has strength in its many partnerships and alliances and champions for preparedness and mitigation. In the U.S., local, state and federal governments and NGOs all play a major and well-defined role in disaster management; there is a strong tradition of local authority, responsibility, and capability. The example of the central coordinating agency FEMA (Federal Emergency Management Agency) and its "reinvention" demonstrates the importance of developing high professional competence, earning confidence and support from others, and exercising politically skilled and astute leadership. In the U.S. it is well recognized that all the partnerships and linkages and capabilities must be kept alive and healthy in the absence of disaster.

People's Republic of China: In the People's Republic of China, the Law on Earthquake Disaster Preparedness and Reduction was approved by the National People's Congress and signed by the President of the Republic, effective on 1 March 1998. The law provides a holistic approach to disaster management, with stress on prevention and linkages to the state plan of national economy and social development. Responsibility for leadership is ascribed to all levels of government, and agencies at each level are charged with carrying out earthquake disaster preparedness and reduction work in accordance with their own assigned functions. There are specific provisions for earthquake monitoring and prediction, seismic resistant construction, development of citizen awareness and capabilities for rescue. There are requirements for national, local, and agency emergency plans, and guidelines for post-earthquake relief and reconstruction. The law also includes sanctions for non-compliance with seismic design code, abuse of powers, or withholding or embezzling seismic disaster relief funds and goods.

Colombia: Colombia provides a good example of a holistic, comprehensive disaster management law and system. Laws 46 in 1988 and 919 in 1989 provided for the organization of a national system for the prevention and attention to disasters. The law charged the existing National Office for Attention to Disasters (now National Department for Prevention and Attention to Disasters) with developing a National Plan for Prevention and Attention to Disasters, which plan would be approved by a National Committee and adopted by decree of the National Government. In turn, Decree No. 93 of 1997 outlined

[1] See www.ocipep.gc.ca/home

the objectives, principles, general strategies, and principal programs of the National Plan, which was adopted in its entirety as an annex to the Decree.

In Colombia, frequent major disasters resulted in the enactment of this national disaster law and creation of a department in the national government for disaster management. Also, the capital city of Bogota, Colombia, has a very active, well-financed and well-resourced Department for the Prevention and Attention to Emergencies. This department engages in a full range of disaster management activities in cooperation with other agencies, local universities, scientific organizations, and community groups. Programs include public awareness and education, development of a state-of-the-art GIS and internet-based disaster management information system, and relocation of neighborhoods from hazard-prone sites to new, safer locations.

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OPERATIONALIZING DISASTER MANAGEMENT COMMITTEES UNDER BANGLADESH URBAN DISASTER MITIGATION PROJECT (BUDMP)

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Vulnerability of the Urban Sector in Bangladesh:

Bangladesh is characterized by precious ecological and socioeconomic conditions that result in high vulnerability levels to many natural hazards, both in urban and rural areas. Disaster induced migration of rural poor to the cities has played a significant role in the urbanization process of Bangladesh. Displaced people generally belong to the poorest and most vulnerable groups whose last option after a disaster is to move to urban areas where they occupy *khas land* (unused public land) along with the previous rural migrants. Due to increase of rapid urban population for both push and pull factors, poor people have been living in most vulnerable area like slum. According to Bangladesh Bureau of Statistics, urban population growth rate at the first decade (1901-1910) of 20th century was 1.39% but in last decade (1991-2000) it was 23.39%. The term disaster vulnerability emphasizes suffering of total number of population compare than area of geographical region. Competitiveness and livability of cities in Bangladesh are being constrained by running natural disasters, deteriorating environmental conditions and increasing social, economic and physical vulnerability of the majority of the residents.

Urban disaster is man made more than natural. Population density, ecological imbalance and inappropriate construction are major causes for urban disaster. As a part of non-structural mitigation measures, community participation with respect to planning, supervision and monitoring regarding urban development can reduce disaster vulnerability.

Urban Governance and Municipality Disaster Management Committee:

There are 254 municipalities in Bangladesh. The main legal framework of Municipalities is the 1977 Pourashava (Municipality) Ordinance. Besides the ordinance, municipal affairs are regulated by 'rules' and 'standing order' issued by the central government under the provision of the ordinance. In addition laws and regulation, issued by the municipalities guide municipal operations.

According government standing order of central government in 1993, with the following personals Municipality Disaster Management Committee (MDMC) is constituted:

- Chairman of the Municipality — Chairperson
- All Ward Commissioners — Member
- Medical Officer of the Municipality/Sanitary Inspector — Member
- Executive/Assistant Engineer of the Municipality — Member
- Agriculture Officer under Municipal area — Member
- Family Planning Officer under the Municipal area — Member
- Bangladesh Rural Development Board Officer — Member
- Two Local elite under the Municipal area — Member
- All NGO representatives working in municipal area — Member
- Representative of District Civil Surgeon — Member
- Chief Executive Officer/ Secretary of the Municipality — Member Secretary

Significance of MDMC structures:

Basically MDMC structure is constituted with 4 types of representatives, like:

a) ***Community Representatives:*** There are 12 elected ward commissioners and a elected Chairman in the MDMC, of which 3 are female ward Commissioners. Since they are accountable to community at the same time to government, it is addressed properly to governance issues in the MDMC. Gender equity is properly addressed through incorporation of 3 female commissioners (25%). It has more

opportunity to come female members in MDMC through direct election in the position of ward-level commissioners or in Chairman position. As because women and children are affected in disaster, women representatives can play vital role in MDMC.

b) Government Officials: At least 7 government officials are incorporated in MDMC, by which quality & on time services, transparency and accountability of MDMC activities would be ensured. According to Bangladesh Service rule during emergency government approves no leave for government officials, which ensures proper and timely response**.**

c) Local Elite: Generally representative of civil societies plays vital role in emergency situation. In pretext of Bangladesh, local elite involves with different social institutions, which are widely used as a shelter during emergencies. Therefore incorporation of local elite is very much significant in MDMC structures.

d) NGO Representatives: Now a day it is recognized NGO services side by side of government. Through incorporation of NGO representatives in MDMC, it is created opportunities to deliver services in disaster management in more coordinated way. NGO services will also be transparent to government.

How BUDMP Works with MDMC:

BUDMP emphasizes the urgency for enhancing as well as promoting institutional capacity in assessing and improving: 1) capability of MDMC charged with disaster management planning 2) level of coordination required to implement mitigation activities and operation and maintenance of these works and 3) community participation. In this connection BUDMP has been extended support to MDMC in the following areas:

a) Capacity Buildings:
- Reactivated Municipality Disaster Management Committees under two working municipalities.
- Organized training on "Roles of Municipality Disaster Management Committees" as per government standing order.
- Assisting to continue routine meeting of MDMC.
- Selection of volunteers from their own community by themselves.
- Project Implementation (in planning, supervising, monitoring, evaluation etc.) e.g. involving ward level Scheme Implementation Committee and perform good jobs

b) Community Based Flood Preparedness:
- Preparation of Municipality Disaster Contingency Planning
- Participation of community based gathering like courtyard meeting
- Mobilize household preparedness
- Linkage with representatives of civil societies.
- Linkage with different community-based organizations like welfare club at ward-level etc.
- Mobilizing volunteers through performing different activities. (e.g.- School program)

c) Awareness Campaign:
- Celebration of National Disaster Preparedness Day (NDPD)
- Participation of different awareness campaign like debate competition, art competition, discussion meeting, rally etc.
- Poster on project goal, awareness calendar etc.
- Flood Simulation

d) Advocacy:
- Clear concept about government standing order, role-responsibilities of each member.
- Existing capacity analysis and expectation setting
- Make aware about policy formulation or change (if needed)

e) Networking:

- Experience sharing with other municipalities and Municipality Chairmen Association of Bangladesh.
- Idea generation/suggestions
- Demonstration of mitigation activities
- Linkage with NGOs, CBOs within the municipality.
- Linkage with civil society representative within the municipality

Conceptual Areas considered for MDMC Development:

In general, an urban sector strategy for Bangladesh should support the strengthening of the institutional capability and coordination of local bodies and agencies in charge of municipal management. Imparting high importance of government standing order BUDMP designs conceptual framework for MDMC following participatory need assessment procedures. In the process of defining conceptual areas for MDMC, BUDMP has considered in the light of confluence of dimensions e.g.- rapid urbanization and livability, competitiveness, good governance and community participation. Conceptual areas are:

- Basic concept of Disaster Management
- Government Standing Order
- Urbanization Process in Bangladesh context
- Urban hazards
- Urban flood and its' mitigation
- Do's and don'ts during urban flood
- Role-responsibilities of MDMC
- Need of volunteerism in disaster management and define role and responsibilities of volunteer.
- Gender equity and its' implication in disaster management.
- Humanitarian Charter on disaster management
- Scheme implementation process
- Details about BUDMP

Lesson Learned:

- Found openness, criticisms and sharing attitudes among all Municipality office bearers in all steps of project implementation
- Transparency, accountability of responsibility has been increased significantly.
- Found interest about project activities and felt empowered regarding implementation of structural mitigation.
- MDMC members provide excellent service to negotiate with the community regarding different disputes and conflict management.
- Non-structural disaster mitigation measures may prove to be critical in supporting the effectiveness of structural measures. Therefore, public consultation in design, development and evaluation of structural mitigation measures should be encouraged.
- There has been very limited private sector involvement in the provision of urban disaster management. It will be absolutely essential to significantly leverage and multiply many times over, the present capacity of the private sector (including civil society realm NGOs, CBOs, affinity groups and self help programs etc.) to provide urban services to handle the existing backlogs and the future demand anticipated.

MANAGING URBAN DISASTERS
THE NAGA CITY EXPERIENCE ON POLICY AND INSTITUTIONAL FRAMEWORK

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Introduction

Disaster Management has evolved somewhat over the past decades with a shift from response to prevention and preparedness to mitigation. The United Nations International Decade for Natural Disaster Reduction (1990-2000) and the AUDMP of ADPC saw many governments and institutions, including Naga City adopt four specific disaster management concepts, namely:

- The all hazards Approach
- The Comprehensive Approach (incorporating prevention, preparedness, mitigation, response and recovery)
- The all agencies approach
- The prepared community (Building Resilient Community)

Natural and man-made hazards, such as typhoons, flooding land instability, urban fires and conflagration, power failure, dam failure have the potential to cause significant environmental, social and economic loss through damage to people, communities , lifeline facilities and infrastructure.

Land uses that fail to recognize areas prone to hazard risks are not sustainable and can cause communities and the environment unnecessary harm or damages. communities need to be developed in a sustainable manner by insuring a close linkage between hazard mitigation and land use planning.

This study focus on how Naga, small city in central Philippines, crafted a number of effective responses to hazards and environmental degradation that helped uplift the quality of urban life. Specifically, it will center on the Naga City Disaster Mitigation Project or the NCDMP, and how it helped evolve the city's risk reduction initiatives.

The setting

A riverine city in southern Luzon, Naga is located in the province of Camarines Sur, the biggest province in Bicol peninsula. It is about 450 kms south of Manila and about 100 kms north of Legaspi City.

As a city, Naga is one of the country's oldest. Originally called Ciudad de Nueva Caceres, It was one of the five cities created by royal Spanish decree in the late 16th century. The "Heart of Bicol", Naga has established itself as the religious, educational, and business center of Bicol, one the country's administrative regions.

The Naga City Disaster Mitigation Project (NCDMP) is a program implemented by the Asian Disaster Preparedness Center (ADPC) under the Asian Urban Disaster Mitigation Program (AUDMP). The major concern of the project is to identify mitigating measures that will help the Nagueños, while promoting the importance of awareness and city planning for all potential hazards. As the first model city in the Philippines, Naga City's project focused on the need to mitigate disasters particularly typhoons and flooding. The project helped strengthen the capacity of City to develop and implement disaster mitigation standards and practices.

From this brief profile, we can identify the disasters that threaten the city, its inherent vulnerabilities and weaknesses and better appreciate the mechanisms it has in place to mitigate their impact and speed up recovery.

POLICY AND INSTITUTIONAL FRAMEWORK

Good Urban Governance: Towards greater transparency and accountability

Good governance is an area where Naga has consistently made significant strides on capitalizing on its gains over the last ten years, the city has just made a great leap –anchored on the development of the concept that promotes greater transparency and accountability. A sustainable community also selects hazard reduction and management strategies that evolve from full participation among all public and private stakeholders. Planning is probably the most comprehensive means of creating sustainability and resilience. Sustainable development is the result of an integral planning process that incorporates (or should incorporate) a number of considerations regarding hazards such as vulnerability and risk reduction, strategies aimed at protecting the environment , and economic growth. Hence, implementing hazard mitigation policies is a major vehicle, although it is not the only means, and neither will it work in all cases. With Naga's good urban governance experience, such a policy incorporate elements of land use management, construction regulations and stakeholders participation (The Naga City Peoples council), these components are strategies that inter-linked to promote cooperation among the community and the whole of government approach.

- Maintain and enhance environmental quality: human activities to mitigate hazards should not reduce the carrying capacity of the ecosystem, for doing so increases the losses from hazards in the longer term.
- Maintain and enhance people's quality of life: a population 's quality of life includes among other factors, access to income, education, health care, housing and employment as well as protection from disaster.
- Foster local resilience and responsibility: resilience to disasters means a locality can withstand an extreme natural event with a tolerable level of losses
- Recognize that vibrant local communities are essential: communities should take mitigation actions consistent with that level of protection.
- Assessment of sustainable indicators
- Environment Impact statement: such a statement should always include a n analysis of hazards and risks.

Conclusion

Disaster management concepts have been implemented successfully in several developing countries. This study has proposed that they are also relevant in developing countries like the naga city experience although the issue of poverty alleviation must be considered when interpreting the concepts of disaster management.

The Naga City Experience highlights the fact the need not to dissociate disaster mitigation with development. While disaster may set back development efforts, its mitigation and the eventual rehabilitation effort should always be viewed as part and parcel of a locality's overall development program. To isolate disasters from development is to aggravate its impact and indeed, truly set back development itself.

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YOKOHAMA`S EFFORTS TO BE PREPARED FOR DISASTERS

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Overview Of Yokohama

Located in the eastern part of Kanagawa prefecture and facing Tokyo Bay to the east, the city of Yokohama, with a population of 3.4 million is the second largest city in Japan after Tokyo. Since it opened its port to foreign countries in 1859, it has developed into an international city. Yokohama celebrated the 140th anniversary of the opening of its port in 1999.

Topographically, the city is divided into hills, tablelands, terraces, lowlands and reclaimed lands, and since the gradients of rivers from the upper to lower reaches are steep, the city is subject to flood damage. In the coastal areas, much land has been reclaimed from the sea. The steep cliffs that once faced the sea are now inland, and there have been many landslides at these cliffs.

I will briefly outline the disaster measures instituted by the Yokohama municipal government.

Learning a Lesson from the Great Hanshin-Awaji Earthquake

I The Disaster Prevention Plan of Yokohama City

The Disaster Prevention Plan of Yokohama City is a regional disaster prevention plan drawn up by Yokohama City Disaster Prevention Council as a basic and comprehensive plan to cope with disasters under the provisions of Article 42 of the Disaster Measures Basic Law. The Plan is comprised of four sections: “Earthquake Disaster Countermeasures,” “Storm and Flood Damage Countermeasures,” “Urban Disaster Countermeasures, ” and “References.” These countermeasures are to undergo annual review and be amended if necessary.

In March 1997, the municipal government of Yokohama referred the results of the review done by “Yokohama City Council for the Enhancement and Promotion of Earthquake Disaster Countermeasures” to Yokohama City Disaster Prevention Council and carried out a substantial revision of the “Earthquake Disaster Countermeasures.” As a result, it was decided that the earthquake disaster countermeasures of Yokohama City are to be organized and promoted under three basic policies: 1) enhancement of local disaster prevention capacity; 2) enhancement of prompt response of administrative bodies; and 3) establishment of disaster prevention infrastructure.

This Disaster Prevention Plan is the guideline for disaster prevention countermeasures of Yokohama City; Yokohama municipal government has taken various measures since the Great Hanshin-Awaji Earthquake on the basis on these three basic policies.

II Yokohama City Council for the Promotion of Disaster Prevention

The Great Hanshin-Awaji Earthquake prompted the Yokohama municipal government to organize “Yokohama City Council for the Enhancement and Promotion of Earthquake Disaster Countermeasures chaired by the mayor and comprised of all division and ward chiefs of Yokohama, as well as the deputy mayor and treasurer, in February 1995 for the purpose of reviewing and reforming earthquake disaster measures through concerted efforts by the municipal government. The Enhancement and Promotion Council formed 3 working groups: “crisis management,” “relief,” and “recovery” to tackle 12 short-term and 24 medium-to-long-term problems. They appropriated a certain amount of funds for the short-term problems in the supplementary budget and started implementing countermeasures in fiscal 1995. The Enhancement and Promotion Council was convened 9 times by April 1996. Meantime, they discussed and examined over 100 problems and put into effect earthquake disaster countermeasures dealing with almost all of these problems.

The Basics of Disaster Prevention of Yokohama City

- Yokohama City Council for the Promotion of Disaster Prevention
  The municipal government of Yokohama constantly addresses disaster prevention projects with concerted efforts.

  In April 1997, Yokohama City Council for the Enhancement and Promotion of Earthquake Disaster Countermeasures changed its name to "Yokohama City Council for the Promotion of Disaster Prevention." Retaining the strong system of promoting disaster prevention measures of the former council, this Council has been dealing with measures for a variety of disasters in addition to earthquakes and crisis management

III Earthquake Disaster Countermeasure Ordinance of Yokohama City

Yokohama city enacted "Earthquake Disaster Countermeasure Ordinance of Yokohama City," which provides for disaster prevention and countermeasures for earthquakes to ensure the security of citizens' lives, physical health, and property.

According to the ordinance, all citizens are encouraged to share a perception: "each one protects one's own life by oneself and citizens protect their community by themselves" as a basic duty of citizens and the ordinance provides that citizens shall always be voluntarily prepared for earthquakes by considering quake-proofing of buildings and making buildings incombustible, preventing furniture from tumbling, and preparing enough food and water for at least three days as well as emergency items such as medications, and that they shall actively participate in disaster prevention drills and disaster-related events organized by local authorities or administrative bodies in order to enhance their capacity to act in the event of disasters.

The ordinance also provides that business proprietors and persons supervising public organizations shall, at their expense and responsibility, perform their duties as responsible persons through the efforts to promote the development of earthquake disaster countermeasures such as stockpiling of food and drinking water and preparing for machinery and materials, for firefighting, rescue and relief operations, as well as to ensure the security of facilities and equipment under their supervision. It is also provided that they shall make efforts to actively cooperate on earthquake disaster countermeasures implemented by the municipal government.

IV Outline of Disaster Prevention Measures Taken by Yokohama City after the Great Hanshin-Awaji Earthquake

- Enhancement of Local Disaster Prevention Capacity
- Preparation of local disaster prevention bases
- Building up of disaster prevention stockpiles
- A disaster prevention drill at a disaster prevention base
- Enhancement of Prompt Response of Administrative Bodies
- Promotion of observations, research and studies on earthquakes
- Establishment of communication infrastructure for disaster prevention information
- The Room for Headquarters of Disaster Measures at City Hall
- Establishment of Disaster Prevention Infrastructure
- Quakeproofing of a bridge
- Promotion of reinforcement of municipal facilities for disaster prevention
- Quake-proofing of buildings

Enhancement of Local Disaster Prevention Capacity-Making Citizens and Communities Strong Against Disasters

Many earthquake survivors say that the experience made them fully realize the importance of mutual help among people in the community. It is also important for them to share the perception that "each one protects one's own life by oneself and citizens protect their community by themselves" and learn how to behave calmly in the event of an earthquake in order to mitigate damage. The municipal government of

Yokohama intends to develop the awareness of preventing disasters among its staff and citizens by repeating and continuing disaster prevention drills. It also promotes the establishment and development of local voluntary disaster prevention organizations and self-defense fire brigades in business establishments. Through establishing a system that supports mutual help of citizens, it urges the citizens and communities to be strong in disasters.

How to Evacuate in the Event of an Earthquake

- If an earthquake occurs, you should look to your safety according to the situation.
- Evacuate to a spacious and safe place such as a schoolyard, park, playground or open space. (temporary shelters)
- If you cannot return home because house has collapsed, evacuate to a designated elementary or junior high school. (shelters for earthquakes)
- If a great fire breaks out during the earthquake and the fire spreads, evacuate temporarily to protect yourself from radiant heat (broad-area shelter).
- After the fire is extinguished, return home or evacuate to the designated earthquake shelter.

A. Earthquake Shelters

a) Prior designation of earthquake shelters

In the Great Hanshin-Awaji Earthquake, there was great confusion as evacuees swarmed into some shelters.

The broad-area shelters had been designated by Yokohama City since 1972 to serve as temporary shelters. It was not assumed, therefore, that evacuees could stay at these shelters long-term. In April 1995, Yokohama City designated elementary and junior high schools close to each neighborhood as "earthquake shelters" (453 shelters) and distributed a shelter map to every household in the city.

b) Preparation at designated shelters as local disaster prevention bases

At elementary and junior high schools that had been designated as earthquake shelters, disaster prevention storehouses were set up at schoolyards and unused classrooms for the stockpiling of disaster prevention machinery and materials (engine cutter), electric generators, stretchers, mobile rice cookers, etc.), water, and food. At the end of fiscal 1998, the preparation was completed of these designated shelters as local disaster prevention bases that temporarily offer living space to evacuees who cannot go home because of collapse or destruction of their houses.

As a means to receive and transmit different kinds of information on damage from disasters and evacuation, each local disaster prevention base is equipped with a cellular phone.

c) Steering committee

A steering committee is organized at each earthquake shelter and is composed of local administrative bodies, schools and a ward office with a view to promoting disaster prevention activities through the mutual help of local residents such as relief and rescue operations using machinery and materials for disaster prevention and maintaining the safe and orderly life of evacuees at shelters.

d) Establishment of local bases for medical and relief services

Local bases for medical and relief services are temporarily set up at schools (municipal elementary and junior high schools) as first-aid stations that give first aid to people injured in disasters for the period of time needed for initial countermeasures (basically for 3 days following a disaster) only in the event of such disaster as a large scale earthquake. Between fiscal 1995 and 1998, 145 of these bases were established, one in each junior high school zone in Yokohama City, and medications and other items necessary for first-aid are stockpiled at these bases.

B. Broad-Area Shelters

The Great Kanto Earthquake took a heavy toll of lives in Yokohama, with most of these people being killed when fires broke out in the earthquake. Based on lessons learned from this tragedy, Yokohama City has designated broad-area shelters as places where people can evacuate to in order to protect citizens from radiant heat and smoke if many great fires break out and spread as a result of an earthquake. Since the first shelter of this kind was designated in 1972, after several revisions, broad-area shelters have been designated by the city. The total number as of the end of March 2001 is 119.

C. Stockpiling Plan

a) Stockpiling of food, water, and necessary items

In Yokohama City, food and water such as hardtack for 3 million people and 3 million containers of canned water, as well as daily necessities and machinery and materials for relief operations are dispersed and stockpiled in many places.

At 453 local disaster prevention bases in the city, water, food, daily necessities like toilet paper, makeshift toilets, and machinery and materials for relief operations including engine cutters are stockpiled. Besides these local disaster prevention bases, the same selection of items are dispersed and stockpiled at 6 regional storehouses, 18 ward offices, and 33 branch fire stations.

Grooves are cut in the stockpiled hardtack so that they can easily split, and glutinous starch syrup is spread on them. In 1997, "hot rice gruel" and "hot milk" that can be warmed up by the heat of reaction of quicklime and water were developed in collaboration with the private sector. Through using these devices and developing others, Yokohama City strives to stockpile food that is easy for the elderly and babies to eat at disaster stricken areas where water and heat reservoirs are often insufficient.

b) Securing water

Securing water is crucially important for maintaining life of disaster stricken people. Yokohama City has taken measures to secure 3 liters of drinking water per person per day for the first three days and 10 liters per day for the next 3 days following a disaster as well as to stockpile emergency items such as canned water.

c) Circulatory underground reservoir

This is an underground reservoir that partially functions as a water pipe through which fresh tap water is usually running. There are 114 reservoirs of this kind as of the end of fiscal 2001. A further 134 reservoirs are being planned for completion by the end of fiscal 2010.

d) Emergency hydrant

This is a facility that lays quakeproof pipes and draws water from the quake-resistant arterial water-feeding pipe, feeding water from the emergency water-feeding device attached to the end of the quakeproof pipes. This facility had been installed in 296 places as of the end of fiscal 2001. A further 358 such facilities are planned for installation as of the end of fiscal 2010.

e) Canned water

A total of 300 million 350ml –cans of water are always stockpiled.

f) Wells for emergency use in disasters

With the cooperation of the owners of wells in each community, 3,784 wells are designated as wells for emergency use, which provides water that can be used for living or drinking after boiling (as of the end of March 2002). The sign "a house with a well for emergency use in disasters" is displayed at each well and a water quality check is carried out every year. The city also pays subsidies to well owners who purchase a hand pump for their wells.

This way, Yokohama City has taken measures to secure food, water and other necessities. But we also ask every citizen to maintain the perception that "each one protects one's own life by oneself" and to always be voluntarily prepared for disasters by stocking food and water for at least 3 days.

D. Development of Awareness of Disaster Prevention in Citizens through the Disaster Prevention Handbook, pamphlet and Disaster Prevention Fair

Yokohama City published "Disaster! A Home Crisis Management Manual," a disaster prevention handbook, and distributed it to all households in the city in fiscal 1996. The city also published a variety of pamphlets on disasters to furnish useful hints on what to prepare and what to do if there is an earthquake.

At the annual Disaster Prevention Fair, the city arouses awareness of disaster prevention in citizens in cooperation with organizations related to disaster prevention. It does this through displaying panels, holding workshops to show how to handle machinery and materials, displaying disaster prevention items, displaying ladder trucks and heat resistant rescue vehicles of the Fire Defense Bureau, and holding drills on how the Self-Defense Forces distribute food to victims.

E. Disaster Prevention Drills

Yokohama City regularly conducts disaster prevention drills throughout the year to improve its capacity to cope with disasters and enhance the coordination among various organizations. It also aims to train disaster prevention organizations at each town and private sector, steering committees of local disaster prevention bases and other organizations as well as to improve voluntary disaster prevention activities.

INSTITUTIONAL ARRANGEMENTS FOR TOTAL RISK MANAGEMENT IN NEW ZEALAND: ISSUES AND SOLUTIONS[1]

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Abstract

The enormous interest throughout the private and public sectors in risk management is no accident. The drive for efficiency and effectiveness has generated the development of new management tools. In this context, the process of risk management has matured significantly in New Zealand over the past decade. This evolution has seen a broadening from the earlier focus on risk assessment to encompass a six step iterative and ongoing process. This process has been encapsulated in the national standard AS/NZS 4360:1999 *Risk Management* which was first released in 1995, and is being applied as a management framework in a wide variety of situations ranging from individual projects, through the governance of large organizations, and as the basis for proposed legislation. This paper describes the development of risk management as it is applied in specific areas in New Zealand. The paper also discusses a series of generic issues that require thinking through before risk management is properly institutionalized.

Introduction

Risk Management

Whether public servants, entrepreneurs or private citizens are the main players, people put assets at risk to achieve objectives. This is the essence of managing, and this is the reason that understanding risk and the practice of risk management is a central issue for contemporary management. Risk management practice focuses on the broad issues of general management. By doing so, it goes beyond the technical orientation of risk assessment. When taken in sequence, a risk management process allows greater insights into risks and their impacts. An assumption inherent within risk management, as it is used in this paper, is that without it, benefits will not be gained to the extent that they could; or alternatively, unintended consequences may produce significant dislocations. If a dislocation becomes extreme, crisis or disaster might result. Given the increased complexity and inter-connectedness of systems within the modern world and the rapid growth of techno structures that are not necessarily well understood, this is a reasonable assumption.

Risk management relates to a wide array of quantitative and qualitative factors requiring insight and input from many sources. It deliberately does not identify any specific group or agency that might be required to undertake the tasks; instead it encourages an understanding of the complexity and inter-connectedness of issues and offers up a process as a way to accomplish desired outcomes and objectives. It is in this context that the Joint Technical Group of Standards Australia and Standards New Zealand defined risk management as, 'the culture, processes and structures that are directed towards the effective management of potential opportunities and adverse effects' (AS/NZS 4360:1999:4). Hence, the AS/NZS 4360:1999 Risk Management Standard (referred to in this paper as 'The Standard') deliberately sets out to encourage eclecticism and resourcefulness.

The Standard also defines a process (see Figure 1) of risk management as being 'the systematic application of management policies, procedures and practices to the tasks of establishing the context, identifying, analyzing, evaluating, treating, monitoring and communicating risk' (AS/NZS 4360:1999:4).

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[1] Reproduced from the paper presented the *Seminar on Institutional Arrangements for Total Risk Management*. Organized by the Asian Disaster Preparedness Center (ADPC) in collaboration with the Ministry of the Interior, supported by the Office of Foreign Disaster Assistance (OFDA). United Nations Conference Center, Bangkok, Thailand. 3-4 April 2002.

Figure 1: The Risk Management Process (AS/NZS 4360:1999)

Source: AS/NZS 4360:1999 adaptation by New Zealand Society for Risk Management (2001)

Risk Management as an Implementing Mechanism

The definition and process orientation of The Standard infers that risk management relates to a wide array of quantitative and qualitative factors that requires insight and input from many sources. In this respect, risk management is not seen as a practice that is restricted to a specific setting, such as the board of directors of a private enterprise, or an officials committee developing public policy, or to a particular set of skilled individuals, such as engineers or scientists. Rather, it is regarded as a practice that is integral to good management *per se* and which can be applied to any specific industry, sector or system level. However, this does not dismiss the actuality that to be effective, the design and implementation of risk management will be influenced by the various needs of the system under consideration.

The real issue relating to risk management is one of *balance*. Risks cannot be assessed or treated unless there is a clear understanding of likelihood and consequences, the uncertainties involved, and how those risks rank with other risks already accepted by the community. Hence, the risk management process must, on the one hand, take into account what is known about the physical properties and potential effects of risk elements in terms of the probability of occurrence and the likely consequences of the losses, deficient though this data is. On the other hand, the risk management process must link the above with social, cultural, moral, ethical, political and legal factors. At the same time, there are also significant deficiencies in these databases.

Since there is a need to understand how a potential loss or gain might affect and be perceived by stakeholders who have vastly different – and often competing – interests, resources, status, end-points, understandings, and expectations, it is insufficient and misleading for decision-making to consider risk only in terms of the scientific or financial perspective, or from the point of view of the owner-producer (public or private) of the risk.

Moreover, risk management has no value in and of itself. It is a tool than can be used to help decision-makers more effectively achieve objectives. Through the process, risks to those objectives are identified and a systematic procedure of assessing and evaluating those risks is undertaken. Where treatment options reduce the risk effectively, and in a cost-efficient manner, and which are acceptable to those affected, they may be undertaken. In this way, the process helps decision-makers choose appropriate ways of managing risks in a way that contributes to achieving wider objectives. And since resources are always limited, competing demands and/or interests of stakeholders, the management of risk issues entails *priority setting*. This means all involved parties should have the opportunity at some stage to discuss and debate possible outcomes. This is a crucial element. Hence, effective communication strategies throughout the risk decision process, together with an explicit recognition that value judgments are a valid part of that process, are key distinguishing elements of risk management.

The effectiveness of this process is linked to a wider set of actions that includes inter-disciplinary research; the professional development and technical training of different groups; risk understanding, awareness creation and education; developing a 'systems' perspective, and institutionalizing alternate ways of viewing risk-related issues and solutions. Without these pre-conditions, the risk management process will remain a captive of the restricted thinking and 'stove-pipe' application that has prevented an open approach to date. These characteristics differentiate the management aspects of the risk process from the more technically focused risk assessment areas of risk analysis and risk evaluation. In large measure, the effectiveness of risk management or its failure, whichever the case may be, can be decided upon to the extent that these factors are undertaken and successfully brought together.

Risk Management and Governments

Governments have important roles in risk management and, in particular, disaster management. At least nine functions (Table 1) can be identified that have elements pertaining to managing risk, particularly in the disaster management context. Apart from illustrating how all-encompassing the application of risk management can be, these functions also underscore the reality that disaster management is core government business. This aspect will be discussed in detail in later sections of the paper.

The New Zealand Context

From the early 1980s to the end of the 1990s, New Zealand society underwent fundamental and wide-ranging reform. Most sectors of the economy were substantially deregulated, while social policy changed to remove a perceived dependency on the State by many, towards a needs-based welfare system. Alongside these and other significant changes, many functions of the Government were significantly devolved and commercialized. This activity has been described as an attempt to 'get government out of business while bringing business into government'.

Local government was also extensively reformed. The intention of the reform was to ensure that local government was:

- More efficient and effective
- More attentive and responsive to the community's needs
- More autonomous, with increased flexibility
- More accountable (including politicians being accountable to the electorate for overall performance).

Table 1: Essential Governmental Tasks Associated with Risk and Disaster Management

1	To the extent that revenues used for disaster response and recovery is largely derived from public treasuries, government has a responsibility to ensure this resource is used wisely. This requires communities to adopt and implement risk reduction, hazard mitigation and awareness measures.
2	Governments at all levels assume a major responsibility for ensuring that impact response and recovery operations are appropriately implemented. Effective disaster management reduces the likelihood of, and impact from, disasters. It also reduces the probability that members of the community who are not directly affected by the physical impact will be indirectly affected by the interruption of normal flows of goods and services. Hence, it is in government's interest to minimise community disruption, maintain essential goods and services, and ensure continuity of community.
3	Governments are also potential disaster victims because of their resource investments in vulnerable infrastructures located in hazard-prone areas. Hence, it is important that they adopt hazard adjustments to protect their own human, material and financial investments. These particular measures should be commensurate to those required by the wider community.
4	Effective risk and disaster management is dependent upon strong co-operation and co-ordination among and within levels of government, the volunteer and the private sector. The most likely sector to achieve this is government because it has a mandate to legislate requirements and promote community values within a public good context.
5	Disasters are low probability-high consequence events with the potential to affect any individual and her material possessions, as well as adversely influence environmental components of land, water and air. Disasters have the potential to cause significant economic loss, social and psychological dislocation and widespread physical injury and death. Disaster is therefore not a specific sectoral issue, but a problem for entire communities and nations. Its co-ordination requires national-level planning and execution.
6	Government has three distinct sets of offices that distinguish it from other sectors. The role of the *legislature* is to make the law; the *executive* is responsible in formulating proposals for new laws and for implementing the law; and the *judiciary* is responsible for interpreting the law and its application in individual cases. These functions provide the machinery through which government maintains community values. The level of importance the nation places on disaster management is reflected in wider community values; and changes in those values are legitimated through governmental processes that enact, implement and review regulatory functions.
7	Disasters destroy decades of human effort and investments, and threaten sustainable economic development by placing new demands on society for reconstruction and rehabilitation. They are costly in both immediate losses and in long-term consequences. Disasters halt, and in some cases, reverse economic progress. It is wasteful not to develop sustainable hazard management programmes: risk reduction and disaster prevention is far cheaper than disaster recovery. Sustainable hazard management actions not only minimises damage, but also promotes a stable environment, provides incentives for investment and enterprise, as well as a sense that people can control their own economic destiny. As the nation's economic manager, it is prudent for government to minimise circumstances that may disrupt markets.
8	Vulnerabilities change and it is essential to understand and address them as best we can. Every nation is likely to face more - and worse - disasters in the future. Developing appropriate counter-measures requires a systematic and co-ordinated approach. Government, working with other groups, is the only sector that has a commission to develop national strategies with the power to bind, and the power to commit public resources and influence private resources.
9	How governments choose to deal with both development and disaster issues have significant social, economic, cultural and political implications. Many current approaches transfer risk to those who cannot object effectively, such as less powerful group or future generations. Government has a responsibility for considering these issues of social equity in its policies.

A key outcome of New Zealand's reforms has been the transfer of much of the responsibility and power for decision-making from central government to local government and others. This transfer has been accompanied by an increased attention to risk management frameworks within the public sector, and discussed later. This is evident both in terms of the central government (designing enabling policy frameworks for decision-making which ensure the risk of those decisions are managed) and in other sectors such as local government (implementing those frameworks).

Much recent legislation has implicitly (and often explicitly) put in place frameworks that require a risk management approach. Notable examples are:

- The Resource Management Act 1991, which includes requirements to identify hazards, assess the implications, and identify options for addressing the risks they pose
- The Biosecurity Act 1993, covering unwanted organisms, border control and pest management
- A 1996 amendment to the Local Government Act 1974 which requires local authorities to adopt a long-term financial strategy for at least ten years (it should include environmental risks and asset management)
- The Hazardous Substances and New Organisms Act 1996, covering the importation and production of hazardous substances and new organisms and created the Environmental Risk Management Authority.

In many cases, private sector models for risk management have been modified to meet public sector needs. Although at times this has proven difficult (for instance modifying models used within an organizational context for the community context), it has nevertheless proven useful, primarily because it assists in integrating risk management into everyday decision-making. While a change of government in New Zealand in 2000 heralded a major re-direction in policy goals and programme orientations, the fundamental principles of risk management as an operating tool have been maintained.

In essence, the process of risk management has matured significantly in New Zealand over the past decade. This evolution has seen a broadening from the earlier focus on risk assessment to encompass the six step iterative and ongoing process encapsulated in The Standard, which is being applied as a management framework in a wide variety of situations ranging from individual projects through to the governance of large organizations. In doing so, provision for the institutionalization of risk management is gradually being established. Five areas that are deliberately engaging The Standard - the New Zealand Public Service, local government, lifeline utility management, emergency management, and the New Zealand Society for Risk Management - are discussed below.

Applying the Risk Management Standard in New Zealand

The Public Service

The State Services Commission is one of three central agencies in the New Zealand Public Service (the other two are The Treasury and the Department of Prime Minister and Cabinet). These central agencies provide leadership, coordination and advice on the management of the state sector. Amongst other tasks, the State Services Commission advises Ministers on the machinery of government, and 'employs' departmental chief executives on behalf of government.

In 1997, the Commission commenced to phase in risk management standards that all government departments had to report against. The Commission reminded its chief executives that an integrated risk management process implied that it not be treated as a separate initiative, but had to be integrated into strategic and operational activities delivered by all departments. The standards employed by the Commission are based on AS/NZS 4360. In particular, chief executives had to report against five expectations:

Provide a departmental policy statement on risk management. A current risk management policy statement is to be presented by the chief executive, defining objectives for and commitment to risk

management within the department's strategic and operational context, including all contractual and delegated obligations.

Promote an organizational risk management culture. Risk management is to be incorporated into all communication with departmental staff. Development of a sense of commitment in staff to managing risks, knowledge and skills and encouraging their participation in risk management, and not merely compliance with policies and procedures, is to be part of this culture.

Develop a proactive approach to risk management. A tailored, proactive and forward looking approach to risk management is to be worked out which involves development and ongoing review of a risk profile (identifying actual and potential risks to strategic and operational objectives) followed by a risk analysis, assessment/prioritization, treatment, monitoring and reporting. Risk prioritization and resource allocation should be based on balancing risks, costs and benefits.

Ensure effective strategies on risk communication with stakeholders including general public are in place. A communication framework, comprising strategies for consultation and communication with different stakeholders, based on identification of specific stakeholders and analysis of their needs should be developed.

Routine review of senior management. An ongoing review of senior management will take place to ensure that the department as a whole is effective and efficient in management of actual and potential risks. The review will also involve a periodic reassessment of the approach to risk management, covering all the above dimensions.

Local Government

Local government policy-makers in New Zealand also decided, independently, to encourage risk management practice for local authority practitioners. In 2000, the *New Zealand Handbook for Risk Management for Local Government* was published. Produced by a committee comprising predominantly of local government staff, and published by Standards New Zealand, the handbook follows the elements of the risk management process established by The Standard, but specifically applies it to assist local authorities to meet their legal and political obligations (see Table 2). The Handbook focuses on seven broad elements of risk management:

Governance

- Legal compliance
- Business risks
- Built assets
- Human resources
- Information systems
- Financial management.

The Handbook emphasizes the importance of understanding the context within which a risk management programme will be conducted. Following The Standard, the Handbook breaks down the context into three areas: strategic, organizational, and risk management. It also suggests that an initial review should be conducted to determine the activities of the local authority that are not meeting defined criteria, and which need to be improved. The Handbook states that such a review serves the purpose of identifying and prioritizing the areas of highest perceived levels of risk exposure

Table 2: Risk management activities to be considered by a Local Authority

Risk management activities	Processes					
	Political	**Purchasing and contract management**	**Employment**	**Finance**	**Regulatory and enforcement**	**Management and procedural**
Governance	X	X	X	X	X	X
Legal compliance	X	X	X	X	X	X
Business risk		X	X	X	X	X
Built assets		X				X
Human resources			X		X	X
Information management		X	X	X	X	X
Financial risk management	X	X	X	X		X

Source: New Zealand Handbook: Risk Management for Local Government. SNZ HB 4360:2000

The Handbook also gives suggested organizational structures that local authorities may wish to consider for the implementation and coordination of risk management. Two recommended structures are provided, one for large local authorities, and the second for smaller local government systems.

Utility Lifelines Management

Lifelines engineering is a core part of the utility asset management process. It has been an established discipline in New Zealand since the Centre for Advanced Engineering, at the University of Canterbury, commenced the Wellington Case Study Project in 1989. There are currently more than a dozen regionally-based Lifelines Groups active in New Zealand, each involving between 10 and 20 utility organizations and a range of disciplines including scientific, engineers, planning and insurance. Some, like the Wellington group, have tended to focus on the effects that earthquakes have on critical utility systems, whereas other such as the Christchurch group have taken a more all-hazards approach. Notwithstanding this difference in emphasis, the objectives are:

- To identify the vulnerability of engineering lifeline services to damage from natural hazards.
- To identify practical engineering strategies for reducing the risk or impact of such damage and for providing the reinstatement following such events.
- To communicate the issues to people involved in the management of these services and to raise the awareness of the public to their importance.

The New Zealand lifelines process is based around the following risk management steps:

- Identifying the hazards which could effect each lifelines network
- Compiling common GIS inventories of the various networks
- Assessing the vulnerability of the lifeline network to those hazards
- Assessing the potential damage to and consequences for each network
- Identifying and implementing practical mitigation measures
- Facilitating the preparation of comprehensive emergency response plans

Given the potentially significant impact on the community of the loss of utility services, a strong linkage between lifeline engineering groups and local emergency management offices has been established. By working closely with emergency management agencies, Lifelines Groups address the other key risk management step of communicating and consulting with the wider community.

The focus of lifelines work in New Zealand is on regional scale events that are beyond the ability of individual organizations to respond to and control. The responsibility for taking appropriate mitigation and preparedness steps however remains with the individual organizations.

Emergency Management

New Zealand has a significant exposure to environmental hazards and an increasing exposure to technological hazards. Successive reviews have identified weaknesses in the way that conventional disaster management has been conceived and organized. The New Zealand Government renewed its interest in respect to dealing with natural hazards and disasters over a decade ago. With the transfer of responsibility that occurred through the reforms of local authorities in the 1980s, central government put in place policies designed to encourage more effective safety and loss prevention strategies. These were enunciated, for example, in a set of principles developed for the 1987 Recovery Plan for Natural Disasters, which placed considerable emphasis on risk management and hazard mitigation.

In this respect, the essential element was that central government would share responsibility for the restoration of damage from disaster only if local governments had done their part to minimize, mitigate, and manage the risk to its assets. The expectation was that local government would not simply provide insurance cover, but would seek to protect life and property by managing all the risks they faced. Hence, they were expected to make reasonable efforts to reduce the possibility of adverse events occurring, to put in place protection and damage limitation measures that would reduce the consequences, and to examine the efficacy of response mechanisms and generally to improve the way that emergencies and disasters were managed.

While the reforms outlined above never dealt explicitly with 'emergency management', they did build on previous policies to ensure that local authorities have the tools necessary to manage the risks arising from natural hazards. Two Acts mentioned earlier, the Resource Management Act and the Building Act, are central to the way risks from natural hazards are managed in New Zealand. A common theme in both Acts (and which is mirrored in other policy areas) is that they make tools for the reduction of risk available to local authorities and others, but do not outline (apart from broad outcome requirements) exactly how those tools should be used. The focus is very much on achieving the outcomes of the Acts in the way that best meets the needs of the community.

A key advantage of this approach is that risk reduction measures are considered alongside other aspects of decision-making. The importance of this approach cannot be over-stated. Rather than the traditional view held by many that hazard management detracts from development and imposes economic burdens, these Acts provide a framework whereby hazard management can be seen as a way to support and enhance development and economic and social well-being.

However, in the context of communities managing the risks that arise from natural hazards, it is clear that there is not *one* risk management process, but *many* processes within which the management of risks must be included. These include public sector processes (such as those involved in land-use management) as well as private sector processes (such as asset management and business continuity plans of private sector utilities). It is important that all of these processes are strategically aligned. For instance, the range of treatment options for risks include aspects of risk reduction and of impact response. In order to make the most effective and efficient decisions about how to manage risks, the processes for determining the types and levels of reduction and response activities a community might utilize with respect to a particular risk, must be undertaken within the same overall framework. While in New Zealand all the process is in place, there is a need for better integration between them.

One vehicle that the New Zealand Government is engaging to provide the necessary integration is the Civil Defence Emergency Management Bill. A Government review in 1995 led to significant decision about emergency management arrangements. First, Government approved a set of principles as the basis for an overarching emergency management framework:

- Comprehensive and integrated emergency management systems (comprehensive emergency management relates to the 4R's outlined above)

- The all hazards approach
- Structures underpinned with appropriate technical information and expertise
- Recognition and involvement of volunteer organizations
- Declarations (of emergency) made at the most appropriate level of government by elected representatives
- Individual and community responsibility and self-reliance
- The owner of any property be responsible for its reconstruction
- Routine events and emergencies are best handled at the local level wherever possible

In addition, Government approved the concept of consortia of local government units working together (and with others) to achieve effective emergency management. These consortia will ensure integration between the different units of local government and between the different functions that impinge on the management of risks associated with natural hazards. These decisions are currently being implemented. The new Ministry for Civil Defence and Emergency Management has prepared legislation, which was introduced into Parliament in June 2001, to put them into effect, and supporting local government units that wish to implement them ahead of any legislative changes.

The Bill was developed from nine years of consultation, reviews and reports. These reports and reviews make it clear that the existing purpose, structures and powers for managing major emergencies and disasters are not appropriate if New Zealand is to focus on comprehensive risk management to ensure communities are aware of the consequences of their hazards and that they have the capability to deal with the risks they choose to accept.

The stated purpose of the Bill is to 'improve and promote the sustainable managements of hazards in a way that contributes to the social, economic, cultural, and environmental well-being and safety of the public and also the protection of property …'. The general policy objectives of the Bill are:

- Maintenance and enhancement of the capacity of people and communities to provide for their own well-being and the well-being of future generations
- Optimizing for the economic, social, environmental and cultural benefits to be derived for communities from risk management and sustainable hazard management
- Creation of a flexible, durable, risk management and outcome focused legislative framework with clear responsibilities and accountabilities
- Establishment of duties to mitigate against hazards, risks and consequences, to prepare for emergencies, and a duty on authorities to assess benefits and costs before determining what (if any) intervention is necessary
- Establishment of the circumstances in which coercive powers may be exercised by government, and ensure that there are safeguards against excessive or arbitrary use of these powers.

The Government's intent is that local authorities will identify hazards and the associated risks within their communities, and will consult communities about this. In this way, both local authorities and communities will know what can be expected, what local authorities are going to do, and what communities and individuals will have to do for themselves. Key components are:

a) That emergency management takes a risk management approach

- Plans providing for the management of hazards are to be identified by specific hazard and emergency management personnel who, over time, will all be appropriately trained and credentialed.
- Accountability to constituents
- Local planning to be consistent with a national strategy.

In essence, the approach taken by the Bill has been to describe what is to be done by whom, but to allow discretion on how, within core requirements. The Government's decisions, once implemented, will go a long way to addressing the issue of integrated risks management processes. Perhaps most importantly in

the emergency management context, they ensure that all of the different treatment options (within the categories of reduction, readiness, response and recovery) can be assessed against each other, so that optimal resources are applied, given the level of risk the community is willing to live with.

b) The New Zealand Society for Risk Management

A further notable risk management initiative in New Zealand has been the establishment of the New Zealand Society for Risk Management (NZSRM). Recognizing the need to further improve the knowledge and practice of risk management in New Zealand a national Society was established in late 2000, and its first Annual General Meeting in early 2001. The objectives of the Society, as set out in the Society's Constitution, are to:

c) Promote the principles and theory of risk management

- Bring together persons and organizations involved in all aspects of risk management
- Encourage the development and application of best practice in risk management methodology, including approaches that are appropriate in the New Zealand context
- Develop knowledge and the management of risk
- Expand communication about risk management between organizations involved in risk management, both within New Zealand and in the wider international risk management community
- Improve the quality of risk management practice
- Stimulate interest in risk management as a means if improving the quality of life, environmental quality and economic efficiency.

The Society has quickly established itself throughout the country, with current membership spanning public and private sectors, as well as academic and practitioner groups. To assist in developing a broad-spectrum understanding of risk management, the Society's Constitution permits members to be co-opted on to the Management Committee in order to achieve a balanced mix of interests and expertise. The Society holds regular meetings and seminar programs (with simultaneous linkages to all main centres), and is currently organizing its first national risk management conference scheduled for September 2002. Through its website (http//:www.risksociety.org.nz) and electronic newsletter, members are able to keep abreast with a range of risk-related issues, have access to specialist opinion on topical matters, and gain entry to international risk management sites.

A Concluding Comment: Some Generic Risk Management Issues

While nations such as New Zealand provide evidence that risk management can be practically applied, there are many issues that still need to be worked through. Many of these issues have to do with operationalising the concept: specific issues relate to the development of an accepted practice ideology, as well as solving the question of who is 'qualified' to perform risk management actions. Other issues pertain to the concept of risk management itself, and in particular challenges to the accepted wisdom about what 'risk management' has been and what it should be. In this respect, three major issues should be acknowledged that currently hinder the overall development of risk management:

- There is no commonly accepted definition of risk.
- There is no commonly accepted process for pursuing risk management.
- Risk management is an exercise in dealing with uncertainty and, similar to other issues of uncertainty, there are no readily apparent solutions that will provide assurance.

That risk management might be misemployed is in large part dependent on how well integrated the technical and non-technical aspects of the process are. The greater the integration, the greater the likely success of risk management will be. Conversely, the lower the integration, the greater is the likelihood of disappointment and/or failure. The point is that while there is nothing inherently wrong with risk management, there is often room for significant improvement in the way that the process is pursued. The

table below summarizes some major issues that need resolution before risk management, as the concept has been defined in The Standard and described in this paper, is institutionalized.

Table 3: Institutionalizing Risk Management: Some Challenges and Issues

Key challenges	*Developing an accepted practice ideology that meets the needs of all stakeholder groups*
	Shifting peoples' minds. Getting people to unlearn what they have been thinking/doing previously so as to allow themselves to relearn a new, more inclusive, approach
	Time to allow new thinking to settle in. Accepting that developing RM is itself a long-term strategy
Key issues	RM is a process (a way of life), not a product/commodity – a key issue is how to change from one life/system style to another
	Moving from an exclusive technical approach to an inclusive stakeholder participative approach
	Gaining agreement on both problems and solutions by the majority of affected stakeholders. Recognizing that while expedience is a part of life, it also compromises
	Operationalising RM - especially Establishing the Context, and Communicating, Consulting (and identifying) stakeholders
	Correctly identifying the risks and their likely impacts and not becoming victims of past experiences
	Working on the knowledge that risks can also be positive
	Getting established researchers/practitioners to stop thinking that Risk Management is synonymous with Risk Assessment – and that it is just a technical issue to solve.
	Getting academics to be practical – stop offering single-issue solutions. Risk management is multi-dimensional
	Getting politicians/policy-makers to accept that RM requires proactive measures that may not reap immediate (political) dividends.
	Getting practitioners to actually work with public. Consensus-building and a participatory process is essential
	Ridding agencies of turf battles and acknowledging that RM is a whole-of-government issue. Coordination is a major ingredient for RM.
	Fostering public-private/civil service-citizen links. Effective RM solutions are whole-of-society issues.

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LEGAL AND INSTITUTIONAL ARRANGEMENTS FOR DISASTER MANAGEMENT IN NAWALAPITIYA URBAN COUNCIL, SRI LANKA PARTICIPATION PAPER

K.P.G. Sumathipala, Nawalapitiya Urban Council

1. INTRODUCTION

NAWALAPITIYA has been identified as a 4th order town in the urban hierarchy of the Central Province of SRI LANKA.

It is located in the picturesque central hills of eye-catching beauty of lush greenery, 40km away from KNDY- the last Kingdom of the country and 112km away from COLOMBO the capital.

As per the last census that was carried out in 2001, the population of NAWALAPITIYA is 14,000 and it attracts a floating population of near1y 10,000 daily. This indicates the potential of the town as a service and a commercial center in the Province, although it was originally started as a railway town in 1879.

The mixed agriculture consisting of tea (major export), paddy, vegetables, minor crops and foreign employment support the economic base.

The urban council area covers 262 hectares and the average population density is about 55 persons per ha.

2.0. BACKGROUND

The following important facts

- The elevation 560m - 830m above MSL
- The annual rainfall 4000 mm - 5000 mm
- The temperature 19^{o}c - 32^{o}c
- The flowing of the Mahaweli - the longest river - through the town created an atmosphere for some of the Natural Hazards such as:

    - Earth slips
    - Rock falling
    - Bush fires
    - Floods
    - Lightening
    - in NAWALAPITIYA urban area.

2.1 GENERAL APPROACH

Thus, a prime necessity had been created to look into and take action for the safety and care of the people.

The local authority that was elected in 1997, understood this problem vibrantly and thought that it should be addressed for the first time.

While the council was trying to find a Scientific Method as a remedy to this current issue, the Center for Housing Planning and Building (CHPB) came to us on the evening of the 22nd November 1997 and explained the Objectives of the Sri Lanka Urban Multi-Hazard Disaster Mitigation Project (SLUMDMP), why Nawalapitiya Urban Council (NUC) Area had been selected and the role of the Council.

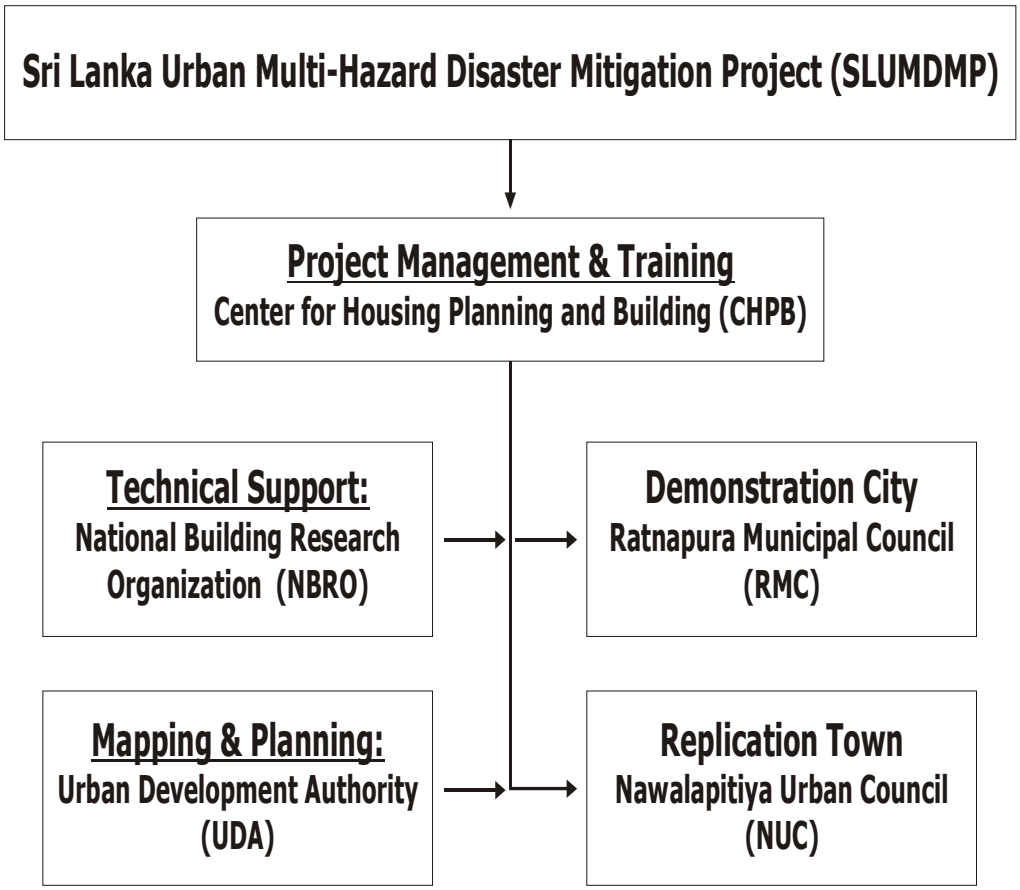
The aim of the project was to establish mechanisms of Disaster Mitigation in Sri Lanka and build capacities of the Local Authority staff in Natural Disaster Mitigation.

The project was not a financial support. But something beyond, something deeper, something that built the sense of awareness, preparedness, pro-activeness among the councilors and the officials towards Management & Mitigation in Natural Disasters.

The main project activities were to implement a Demonstration Project in the Ratnapura Municipal Council (RMC) Area which was identified as the Demonstration City and a Replication Project in the Nawalapitiya Urban Council (NUC) Area as the First Replicating Town.

It was, what made us ticking. We felt it that this concept was constructive and should be disseminated among our people for their safety.

2.2 SLUMDMP INVOLVEMENT

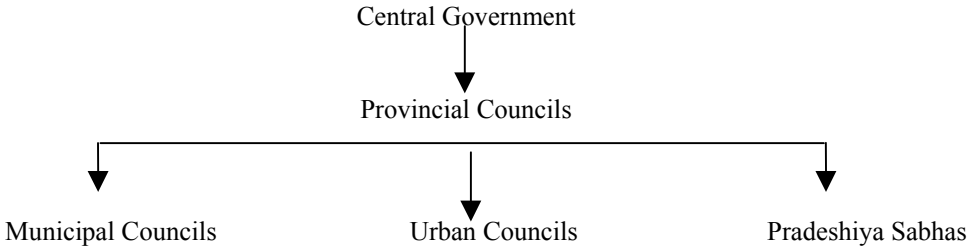


3. LEGAL AND INSTITUTIONAL ARRANGEMENTS FOR DISASTER MANAGEMENT ADMINISTRATION STRUCTURES

3.1 Sri Lanka

SRI LANKA consists of 25 administrative districts and nine provinces. The hierarchy of Regional Administration that supports the Central Government now consists of Provinces, Districts, Divisions and Grama Niladhari Units in the Decentralized Administration System.

3.2 The Hierarchy of the Local Government



3.3 ADOPTION BY NAWALAPITIYA URBAN COUNCIL

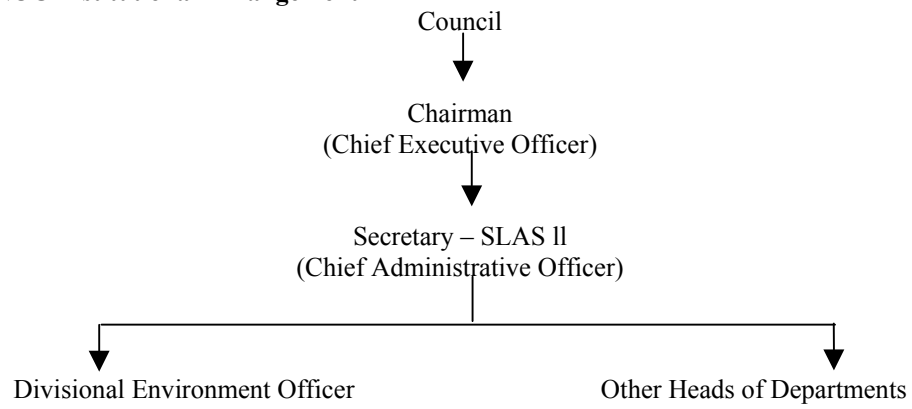
3.3.1 Urban Councils Ordinance (Chapter 255)

an ordinance to make provision for the Establishment of Urban Councils for the purpose of Local Government in Sri Lanka No. 61 of 1939

3.3.2

the declaration as an Urban Development Area under UDA act No. 41 of 1978 - Gazette Notification of 100/4 of 4th August 1980.

3.3.3 NUC Institutional Arrangement



4 DEVELOPMENT OF THE ACTION PLAN

4.1 Hazard Identification Workshop

- Resource persons & participants were selected (elder citizens to share past experiences.),
- preliminary awareness made,
- lively discussions held & collective efforts done,
- hazards prone areas and stakeholders were identified

4.2 Hazard Mapping and Land use Zonation Plan

- all maps and plans were developed by UDA with the technical support of NBRO including data and vital information found at workshops.

4.3 Action Plan

- a comprehensive Disaster Mitigation Action Plan was formulated with community and expert participation incorporating of mitigatory measures.
- people thought that it is fate
- The poverty
- Though the people were aware of the possibility and the occurrences of natural hazards, they were not aware of any planning tool available for mitigation.
- They were not prepared to learn due to the rare occurrences
- The social degradation
- They had other priorities than learning and collective approach
- The language barrier
- No political and community leadership and no NGO's and CBO's were involved
- The government, provincial and local authority officials were unaware of natural hazards and vulnerability and that these hazards were occurred in their respective areas too.
- The impact and the losses were minimum at times, so that they could be forgotten
- Attitudinal changes needed
- Reluctance to migrate to safer locations due to the reason that they are not provided with closer places to town to settle.
- No budgetary allocations were prepared
- Development applications
  - Building codes
  - Construction codes
  - NBRO investigations
  - Planning committee

- A vacant plot (6ha) had been identified by UDA for settlement under the development plan
  - This plot was an old landslide that nobody knew
  - Introduction of hazard zonation all understood of the vulnerability including UDA & NUC

- The construction contractors and craftsmen do not like to change their traditional methods.
- Preventive measures are very expensive so that they are being neglected.
- The destruction of property or life is not estimated before disasters.
- Low-income earners tend to construct in disaster prone areas due to low cost.
- The priorities of any individual may different from one another.
- Sometimes higher lands are not belonging to the actual victims so any activity that takes place in highlands aggravates vulnerability.
- It is not easy to integrate mitigatory measures actively into the existing institutional framework and do not consider prevention is also one of the duties.

HIGHLIGHTS OF EMERGENCY MANAGEMENT AND RESPONSE PLAN (EMRP) FOR RATNAPURA AND EXPERIENCE ON REPLICATION, SRI LANKA

Geethi Karunaratne, Center for Housing Planning and Building

1.0 Introduction

Background

The development of this EMRP for the Ratnapura Municipal Council has been possible only due to the intervention by the Sri Lanka Multi-Hazard Disaster Mitigation Project (SLUMDMP) implemented under the AUDMP of ADPC. With the commencement of the demonstration activities, the municipality established its Disaster Mitigation Steering Committee (DMSC) in 1997. This was established to facilitate interdepartmental and interagency coordination during a disaster for emergency preparedness, response and recovery. The DMSC has proven itself to be one of the first of its kind among the local government institutions ever developed for the purpose of Disaster Management. During the 1st meeting with the SLUMDMP officials, the DMSC expressed the need for sustainable mechanisms for combating natural disasters and for establishing procedure for disaster management in Ratnapura MC area. The EMRP is one such procedural requirement developed by the SLUMDMP.

This Emergency Management Response Plan is designed to help the MC better understand how the DMSC is organized to respond to future emergencies.

Main Considerations in Developing the Plan

In developing the plan the following were established:

- Policies and Objectives
- Operational Priorities
- The main disasters affecting the Ratnapura area
- Activities for emergency response

The Plan Design

The plan was developed in consultation with the users who will be responsible for implementation, updating and reviewing it periodically. It is designed to,

- Reflect the organizational structure for emergency management
- Ensure commitment to the policies and concepts contained in the National Disaster Management Plan
- Reflect the needs of the community
- Incorporate various agencies roles and responsibilities
- Maximise the efficient use of resources

The Users of the Plan and the Responsibility

The main users are,

- The political leadership
- Municipal commissioner
- Officials of the MC
- Service departments operating within the area (national and provincial)
- Community based organizations (CBOs)
- NGOs

The Municipal commissioner is responsible for making this a live document and for implementation, updating, revision and amendments as necessary along with the above parties, under the guidance of the Mayor with the approval of the council. All parties mentioned above will be responsible for implementation in general.

The heads of departments, in addition to their roles and responsibilities during a disaster, will have to play a major role in improving the document after periodical evaluations or after a disaster situation. They can see the pluses and minuses when using it in a disaster and improve the plan accordingly.

NGOs too have a responsibility for critical evaluation of the procedures. As they know the difficulties of the community and implications, it is their duty to show the shortcomings and assist in effecting the necessary changes.

2.0 Main Considerations

Policies and Objectives:

Disaster response is a combination of actions that are needed to be taken by people and institutions in the face of a disaster to ensure minimum losses. Disaster response mainly includes the implementation of disaster preparedness plans and procedures, early warning and rehabilitation programs. The plans are thus directed towards the following policies and objectives:

- Protection of life and property from disaster is a core responsibility of the government and the community at large
- Government will partner with non-governmental organizations and community groups in all phases of disaster management
- Public awareness and education is an integral component of a comprehensive disaster management program
- Disaster operations rely on the normal authority and responsibilities of the government, with additional authorities that may be invoked under certain conditions. Government at all levels must work together and coordinate their cooperation to meet disaster's challenges.

Operational Priorities:

- Protecting human life (the highest priority)
- Meeting the immediate emergency needs of people, including rescue, medical care, food, shelter and clothing
- Restoring facilities that are essential to health, safety and welfare of people (medical, sanitation, water, electricity and emergency road repair)
- Meeting the rehabilitation needs of people, including temporary housing and employment
- Mitigating hazards that pose a threat to life, property and the environment

The main disasters affecting the Ratnapura area:

- Floods
- Landslides
- Land Subsidence
- Epidemics
- Erosion

These events can be categorized in to two groups as:

- Floods, landslides, subsidence - Rapid onset disasters
- Epidemics. Landslides, Erosion - Slow onset disasters

The plan primarily deals with the rapid onset disasters such as, floods and landslides, and the most of the activities connected with slow onset disasters is expected to be handled under normal circumstances.

Activities for emergency response:

- Emergency warning
- Evacuation
- Search and rescue (S&R)
- Post disaster assessment
- Emergency relief
- Logistics and supply
- Communication and information management
- Survivor response and coping
- Security
- Emergency operation management
- Rehabilitation and reconstruction

3.0 The Planning Process

This plan was developed in consultation with users who are responsible for updatement and review periodically.

It is designed to

- Reflect the organizational structure for emergency management
- Ensure commitment to the policies and concepts contained in the National Disaster Management Plan
- Reflect the needs of the community
- Incorporate various agencies' roles and responsibilities
- Maximize the efficient use of resources

The main users of the document will be the political leadership and officials of the municipality and associated service departments under the provincial and central govt. operating within the Ratnapura district, community based organizations and NGO's.

The emergency response has to be carried out in a manner that contributes to long-term development goals and reduce the vulnerability to any future occurrence of potentially damaging events of similar nature.

4.0 Coverage of the plan

The plan is in three parts and provides the institutional structure for managing disasters before, during and after the disaster.

Institutional Arrangements

Part I of the report outlines the institutional arrangements, interdepartmental linkages and the role of the NGOs, voluntary agencies and local communities. It puts in place the mechanisms for plan dissemination and update. The main aspect here is the appointment of the disaster management steering committee under the chairmanship of the Mayor and the Commissioner who would be responsible for the administration of the plan.

Multi Disaster Response and Mitigation Strategy

Part II of the plan provides a Multi Disaster Response and Mitigation Strategy and a Short-term Strategy that include the roles of the various institutions in capacity building and public awareness. Land use planning, regulations and the role of media are also included. This part provides details of the structural and non-structural mitigation measures and the mitigation options available.

Operating Procedures, Guidelines and Standards

Part III provides information on operating procedures, guidelines and standards, which should be maintained. This part presents the guidelines for various departments during different stages of the disaster cycle. The plan also covers the standards of service for food, water, shelter and health services and details of reporting and monitoring tools. Information on the roles and responsibilities of various departments such as the police, public health, electricity board, irrigation department, agriculture, water supply, public works, telecommunication and the road authorities are given in detail.

5.0 Implementation

Legal Status of the EMRP

At present the EMRP does not have any legal status. The statute to establish the Provincial Environmental Authority for Sabaragamuwa Province is being drafted. This Act will include a clause that makes disaster management the responsibility of the Provincial Council with legal empowerment for implementing disaster management activities.

In addition, as an activity of the SLUMDMP, the ministry of Housing and Plantation Infrastructure has made a request to all the Provincial Councils to initiate similar action for legalizing disaster mitigation to make these activities mandatory in the provinces.

Implementing Authority

In the case of Ratnapura, the Municipal Council was to be the implementing authority. In the other local authorities of the province, the implementation responsibility will lie with the respective authorities and the respective Mayor or the Chairman would chair the Emergency Operation Centre. The Chief Secretary of the province will be considered as the Provincial Disaster Manager.

Present Status of Implementation

The Ratnapura MC has not yet started implementing activities. Activities will have to be taken up for continuation of activities with the new council, which came to power in the recent elections on 22nd May. The first action would be a meeting of the Disaster Management Steering Committee with the simplified EMP that has already been submitted to the MC.

6.0 Replication

Nawalapitiya Urban Council

In the Disaster Mitigation Action Plan Nawalapitya UC had identified the need to develop the EMRP for the UC and the SLUMDMP has now developed the draft document based on the Ratnapura EMRP with necessary adjustments and making it simple. It has been translated in to the local language. Adoption of the same in the UC and preparatory activities for implementation is yet to be done.

Colombo Municipal Council (CMC)

Colombo MC from sometime had appointed a Steering Committee for Emergency Preparedness and under the Replication Phase, the SLUMDMP had an activity to assist the CMC to develop the EMRP. The CMC had appointed the Director (Training and Development) as the coordinator for this work, who worked with SLUMDMP in this activity. CMC has now developed the draft plan in a very simple form for convenience in implementation. A workshop to discuss the plan and to get a feedback from all the stakeholders will be held in the very near future. Once the draft is finalized the MC will take action its the adoption and implementation.

Local Authorities (LAs) prone to floods along the lower stretches of Kelani River

At the workshop held in March 2001 for the political heads and officials of these LAs to develop the Disaster Mitigation Action Plan they had identified the need for an EMRP to respond in case a disaster occurs. In order to assist them the SLUMDMP has now developed a simple generic draft document based on the Ratnapura EMRP with necessary adjustments. It has been translated in to the local

language. This will be made available to the local authorities for developing a specific EMRP applicable to the given LA.

7.0 Strengths, Obstacles and Lessons Learnt

- The high level of co-operation by the Mayor and officials of the Ratnapura Municipality during the hazard identification workshop prior to this activity and the initial stage of this activity was a strength
- The willingness of ADPC to provide a consultant was helpful for finalization of the EMRP
- Change of the Mayor in the Ratnapura MC was a drawback, delaying the matters pertaining to establishing the legal framework for implementation of the EMRP

Lessons Learnt

- Cooperation of Mayor and officials of the selected municipal council is essential for successful implementation of activities of this nature
- A plan of this nature which is to be used during a disaster must be simple, so that those involved will find it easy and convenient to act according to the instructions provided

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