

EDITORIAL INTRODUCTION

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The Asian continent is the most hazard prone and vulnerable part of the world with respect to such natural disasters as earthquakes, cyclones, floods, landslides, and drought. Among these natural disasters, earthquakes are the most challenging because of the relatively low rate of occurrence of damaging events but at the same time, the very high consequences thereof. Earthquakes occur all of a sudden without prior warning. Landslides may also occur suddenly unless studied before hand in a scientific way. Cyclones, floods, and drought are slow-onset hazards which give ample time for monitoring and prior forecasting, as well as warnings for timely evacuation and relief measures.

The profession has taken note of the important roles that are required of large numbers of stakeholders at various levels of both government and the society at large. This issue of *Regional Development Dialogue (RDD)* is focused particularly on community initiatives which have been, or could be, taken in disaster management and sustainable development.

It has already been fully appreciated that in order to achieve reasonable efficiency in the management of disasters a holistic approach including pre-disaster mitigation measures involving risk analysis, prevention and preparedness measures, as well as effective post-disaster response, has to be adopted. Figure 1 shows the main elements of holistic disaster management. The subject of natural disaster reduction was considered in the United Nations (UN)-designated International Decade for Natural Disaster Reduction (IDNDR) during which it was realized and emphatically stated in the 1994 Yokohama Declaration that "disaster prevention and mitigation are better than disaster response in achieving the goals and objective of the Decade. Disaster response alone is not sufficient as it yields only temporary results at a very high cost."

A functional structure of natural disaster reduction was developed in the preparatory meeting of the IDNDR, outlined in figure 2, which clearly highlighted the various elements involved in natural disaster reduction. In relation to the various elements, the stakeholders can identify and play their roles accordingly. This tree-like structure of disaster reduction has the stem formed by scientific and engineering studies which are necessary to support the branches of prevention, response, and post-disaster reconstruction and rehabilitation. The stem has to be supported by two main root systems: one consisting of public awareness, education, training, and technology transfer in addition to the research and development in various tasks to be performed. The second root structure is the level at which the actions have to take place and at which capacity-building is absolutely essential. The levels vary from local to state or subregional level, the national level, and finally the global level.

Figure 1. Main Elements of Disaster Management

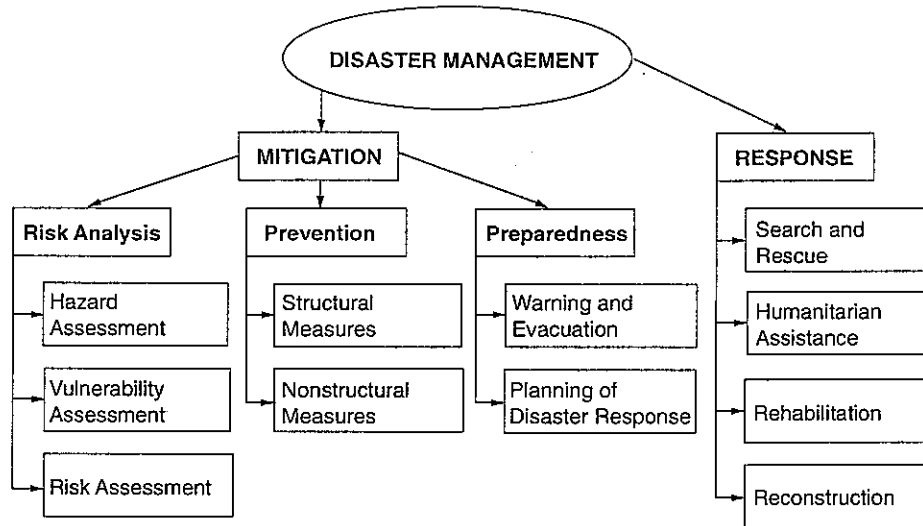
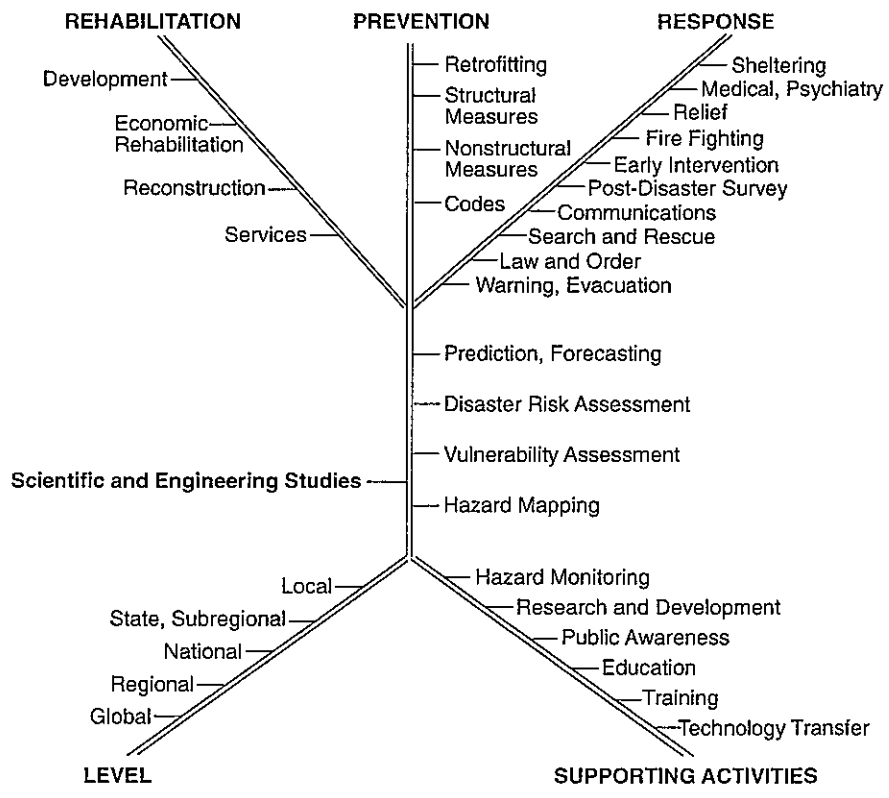


Figure 2. Functional Structure of Natural Disaster Reduction



Interestingly the articles forming part of this *RDD* address many of the components of this functional structure and at various levels. Grouped around four themes, the articles are highlighted below: Four articles constitute the first theme, "Capacity-Building and Risk Management," the first of which is authored by Kenji Okazaki and Rajib Shaw. Entitled, "Empowerment of Local People for Sustainable Disaster Mitigation: Experiences of Developing Countries," the authors note that worldwide, particularly in developing countries, a large majority of houses (more than 80 per cent) are constructed using clay mud, unburned clay blocks and bricks, field stone, or fired bricks which are vulnerable to collapse from earthquakes, cyclones, and floods. Okazaki and Shaw claim "it is ironic that the shelters which must protect people from various hazards often end up killing them." In order to reduce damage, and also the number of victims of the hazards, it is indeed indispensable to make existing houses safer. The stronger the existing houses are, against earthquakes, the fewer will be the deaths, and the less the possible impact on economic and social activities. Therefore seismic retrofitting is a must for saving lives. No government from its own resources will be able to undertake this task, hence vulnerable houses will have to be retrofitted by the homeowners themselves. Okazaki and Shaw further describe the benefits of the Risk Assessment Tools for Diagnosis of Urban Areas against Seismic Disasters (RADIUS) and Global Earthquake Safety Initiative (GESI) initiatives on the participation and ownership of the local people on reducing the earthquake risks in their cities. Motivating local decision makers and policymakers was the first step in this regard. Bringing local disaster managers into the process of disaster management is a challenging task, for which both projects have achieved significant success.

According to Shirley Mattingly, author of the next article, "Policy, Capacity, and Sustainable Practices for Disaster Management: A Commentary,"

...amidst all the chatter about sustainable development and sustainable mitigation, most of us live in communities and countries which engage unabashedly in unsustainable practices. From Kathmandu to Quito to the shores of the Mississippi River, development occurs in fragile coastal areas and floodplains, urban sprawl envelops fertile farmland, and the swelling populations of the poor challenge cities' ability to provide basic services. There seems to be an enormous gap between our ideals and our reality.

To overcome the various shortcomings, we need a holistic and integrated approach that directly informs and involves the community, and we need sustainable practices that will protect both current and future human life and resources. Citing different approaches for building capacity, including public awareness, classroom education, hands-on training, community organizing and community-based activities, institutional networking, policy advocacy, partnerships and exchanges, and projects to increase self-sufficiency, Mattingly quotes a noted expert in emphasizing that "the community must be at the forefront of the capacity building process, rather than just being at the tail end of it."

In "Training and Capacity-Building with the Policy Perspective of a Rehabilitation Programme: Experiences from Gujarat, India," V. Thiruppugazh describes the Gujarat experience after the massive earthquake of 26 January 2001, wherein the broad objectives of the programme are listed, including: reconstruction, repair, and retrofitting of houses, revival of the local economy, rebuilding and upgrading community and social infrastructure, providing health support including psychological counseling of traumatized survi-

vors, restoring lifeline infrastructure, strengthening the empowerment of women, and providing support to affected children. The government has also undertaken the formulation and implementation of a comprehensive disaster management programme for the future by reducing vulnerability through long-term mitigation measures. The cornerstone of the reconstruction and rehabilitation programme was the training and capacity-building aspect in every component not only to implement a successful recovery programme but also to make it sustainable. In the housing recovery programme, the government extended to the earthquake-affected communities a range of choices from complete relocation to *in-situ* reconstruction through a participatory process of decision making. It was made mandatory to reconstruct/retrofit the houses incorporating earthquake-resistant measures as provided by practical guidelines on the subject prepared by this author and published and distributed freely by the Gujarat State Disaster Management Authority. In housing reconstruction, the nongovernmental organizations (NGOs) and the community were involved on a large scale through a public-private partnership programme (PPPP). A total of 290 villages were adopted by the NGOs involving 37,673 reconstructed houses. A special feature of the programme was the establishment of two committees for grievance redressal — one at the village level and one at the district level. These committees ensured that the grievances of the affected people were properly attended to.

In the final article of this section, “Earthquake Disaster Preparedness and Reduction in China,” Zhao Heping describes the earthquake disaster situation in China and informs us that of the nearly 1.2 million people killed in earthquakes throughout the world last century, more than 600,000 were Chinese. Only two earthquakes had a death toll in excess of 200,000 and both were in China. Now, under the joint effort of governments at various levels and the society at large, China plans to spend about ten years making the large or intermediate-size cities, the regions with high population density, and the economically developed regions capable of withstanding the impact of earthquakes of magnitudes up to about six. The process of earthquake disaster mitigation and preparedness in China is comprised of three parts; earthquake monitoring and prediction, prevention of earthquake disasters, and earthquake disaster emergency response and rescue. Interestingly, to stimulate and control activities of earthquake prediction, one law prescribes that no units or individuals have the right to provide any suggestion on earthquake forecasting outside the country (border); but, academic exchange activities based on the results of research in long-term and medium-term seismicity tendency are excluded from this prohibition. This is an excellent provision designed to put a curb on hoax predictions. The current policy in China with regard to earthquake safety is “Putting prevention first, combining prevention with relief, and reducing the effects of earthquake disasters in a comprehensive way”. It is interesting to know that the budget used for earthquake disaster mitigation and preparedness has been listed in the country’s national economic development plan. This is indeed significant.

The theme “Community Initiatives” constitutes the second section of this *RDD*. Two articles comprise the section, the first by Anshu Sharma *et. al.*, entitled “From Disaster to Sustainable Community Recovery: Challenges and Lessons Learned,” is the second article to take the Gujarat Earthquake as a case study.

When the massive earthquake hit Gujarat on 26 January 2001, it “...provided an opportunity to introduce mitigation practices at the community level...” as part of the

rehabilitation programme state the authors. Fifteen agencies from India and abroad came together to adopt and implement a model programme called *Patanka Navjivan Yojana* (Patanka New Life Project), a community-based initiative for post-earthquake rehabilitation in Patanka Village, located in Patan District in Gujarat. The project focuses on enhancing the community's capacity to become more resilient against future disasters. It puts stress on investing in people's knowledge-building, improving livelihood options, use of local resources, and appropriate transfer of technology, to ensure successful mitigation. The authors state that "the community-driven reconstruction in Patanka has been the fastest in the region..." (many thousands more were completed by other NGOs and donors) "...and at half the cost when compared to other agency-supported contractor-driven approaches" (again, not accurate as the cheapest were constructed by the Abhiyan Group of NGOs through the beneficiaries!).

Muhammad Saidur Rahman, in his article, "Disaster and Community: The Bangladesh Context" has described the situation in Bangladesh with regard to flood and cyclone disasters. He has made an interesting statement about floods.

Floods are a blessing for farmers in Bangladesh as they bring billions of tons of silt from the Himalayas making the land among the most fertile in the world. This becomes a curse however, when loss of lives and property exceed the normal acceptable limit.

There is a Directorate of Relief and Rehabilitation and also a Disaster Management Bureau, charged with the responsibilities for post-disaster response and pre-disaster preparedness, respectively, NGOs play very important and effective roles, both before and after disasters, in supplementing the efforts of the government. Thus, both the government and NGOs have developed their expertise in post-disaster response operations. Unfortunately, through experience in the field of disaster management for over thirty years, it is painfully observed that not even 1 per cent of the donations received are spent on the development of awareness and enhancement of the capacity of the people. It is also observed that foreign teams for relief arrived two weeks after a cyclone disaster hit the coast. In this critical period, when availability of emergency food, water, clothes, shelter, and medical aid can make the difference between life and death, the emergency needs of millions were met by the people themselves and their immediate community.

Section three of this *RDD* has the theme "Roles of Different Agencies" and opens with Sálvano Briceño's article, "The International Strategy for Disaster Reduction and Sustainable Development: Public Awareness, Education, and Capacity-Building for the Future." According to Briceño, "For sustainable development to be considered a success, it is imperative that natural hazards and their impacts are accounted for and integrated within its broader framework." He cites the International Strategy for Disaster Reduction (ISDR) which endeavours to work towards four guiding principles: (a) obtaining political commitment from public authorities; (b) increasing public awareness and public participation to reduce vulnerability; (c) promoting better understanding and knowledge in the field of disasters; and (d) stimulating interdisciplinary and intersectoral partnerships including risk reduction networks. ISDR's World Disaster Reduction Campaign, emphasizes formal and informal training programmes which include listing disaster reduction in school curricula and teacher training going beyond the traditional technical and scientific disaster research; and long-term educative capacity-building policies (in particular for decision

makers and the public) so as to promote risk reduction through disaster management.

Masayuki Watanabe continues the section with his article, "A Core Concept for a Disaster-Preparedness Plan for Developing Countries". He discusses the major issues in disaster preparedness arising in developing countries. According to him the objectives of a disaster preparedness plan applicable to developing countries are, in general, fourfold: reduction in loss of lives; reduction in substantial property losses; secure governance; and prevention of environmental degradation. However, the real problem is how to make the processes of the disaster management cycle move forward. In most cases, people concerned with economic and social development pay little attention to safety measures because of the following reasons: (a) shortage of public funds; (b) shortage of private funds; (c) weak regulation capacity; (d) poor engineering capacity; (e) poor leadership and; (f) weak voices and/or voicelessness. Finally, one concern is that although technologies have been well developed for risk assessment and hazardous area delineation, the administrative capacity of the respective authority to apply safety codes for land use and regulation for construction of buildings and infrastructure is too weak to cope with the increase in population and associated problems particularly in urban areas.

In "Ten Years with the World Seismic Safety Initiative," Tsuneo Katayama discusses a decade's work of the WSSI and considers the most notable achievements to be the holding of regular high level meetings (HLMs) in many developing countries with the objectives of triggering local high level efforts; sensitizing professionals, administrators, politicians and the public; helping identify and prioritize local actions; assisting in developing local sustainability through local efforts; assisting in adding credibility to local efforts; assisting in local efforts at fund-raising activities, and assisting in national networking. According to the review made by the Ad Hoc Committee of the International Association for Earthquake Engineering (IAEE) on the WSSI in May 1997, "A wide gap exists between the recommendations of experts expressed at the HLM; and the actual implementation of needed political and economic measures aimed at reducing seismic risk." The review also says, "The existence of this gap must be recognized when trying to assess the expected benefits of the WSSI program both in the immediate future and under a long-term perspective."

Rounding out the section, Rajib Shaw in his study on "The Role of Nongovernmental Organizations in Earthquake Disaster Management: An Asian Perspective" gives a definition of an NGO as "nonprofit-making, voluntary service-oriented organization(s)" consisting of "...private individuals who believe in certain basic social principles". Other attributes are also mentioned. Basically, NGO activities can be grouped into two major types: (a) professional NGOs having specific professional expertise and knowledge; and (b) social NGOs related to social and humanitarian activities. About the roles, Shaw states that while government is able to handle the policy and institutional subjects, NGOs are better placed to deal with the field-level and community issues. Relating disasters and development he makes the important point that disaster problems may be looked at as unresolved development problems and that NGOs, being so close to the communities they serve, are quickly able to recognize gaps and endeavour to fill them. It may be commented however that the *Panchayati Raj* system now in place in India is expected to look at the gaps in local development as well as the issues of natural disasters affecting the communities much more effectively than the NGOs.

The fourth and final section, under the theme “Disaster and Development: Challenges” contains two articles, one by Ben Wisner and the other by Louise K. Comfort. In “Sustainable Suffering? Reflections on Development and Disaster Vulnerability in the Post-Johannesburg World,” Wisner questions whether disasters can really be termed “natural”. But now it is already accepted that whereas hazards are natural, disasters are man-made since any event taking place in the context of exposure and vulnerability may result in disaster, depending on the prevailing societal conditions. “Groups of people who are more vulnerable to harm in such events are generally marginal and lack economic and political power.” He cites and elaborates on five contributing factors for the emerging situation, viz.: governance and democratization; civil society participation; asset-building and social protection; public health and quality of life; and human rights and conflict management. According to him, the “...daily life of many people is a permanent emergency”, that disasters could be interpreted as “the extreme situation which is implicit in the everyday condition of the population” and that disasters “bring to the surface the poverty which characterizes the lives of so many inhabitants”. Therefore, increased community participation must be one of the major factors in disaster management and development.

And to conclude this timely issue of *RDD*, Comfort, in “Hazard Reduction and Response in Metropolitan Regions: An International, Interdisciplinary Model” painfully expresses that: “The need for improved hazard reduction and response is especially acute in megacities, where demographic shifts show that populations are moving increasingly into zones that are vulnerable to hazards”. Citing examples of post-disaster administrative actions in 1985 Mexico City, 1986 San Salvador, and 1987 Ecuador earthquakes, she laments that in each of these cases, the practice was implemented in response to the urgent demands of the event, rather than initiated as a planned strategy for managing risk. According to her

Sustainable development requires a continual process of anticipating likely risks, and adapting resources and skills to reduce and respond to them. This is a dynamic process that involves systematic assessment and monitoring of risk-prone areas, as well as flexible adaptation to environmental change by both technical and organizational structures.

It is important to mention that readers will find authoritative comments to each of these articles which support and enlarge upon the author’s views and/or present alternatives and revisions. The comments have been contributed by well-qualified personnel with relevant backgrounds. These comments constitute the “dialogue” dimension of the journal and can contribute considerably to widening the scope of each article.

As a final note, I would like to say that researchers and disaster managers have contributed their valuable articles and comments which have covered a wide range of topics but still touch upon only a few of the issues which were pointed out in figure 2 of this introduction. It has often been said that while thinking has to be done globally, action has to be taken locally. Models have been proposed which suggest both a top-down approach and a bottom-up approach. In my view both these approaches fall short of the expectations of disaster management or sustainable development. Another approach which has been termed as the public-private partnership programme (PPPP), outlined by Thiruppugazh in his article in this issue of *RDD*, combines every role player from top to bottom. It has been

successfully tested in the aftermath of the devastating Gujarat Earthquake in India, and merits being taken note of in future disaster management programmes.