ISDR

International Strategy for Disaster Reduction

IRP

International Recovery Platform

Learning from Disaster Recovery
Guidance for Decision Makers

Preliminary version for consultation
May 2007

ISDR
International Strategy for Disaster Reduction

IRP
International Recovery Platform

Learning from Disaster Recovery
Guidance for Decision Makers

Preliminary version for consultation
May 2007

Disclaimer

The views expressed in this publication do not necessarily reflect the views of the United Nations Secretariat.

The designations employed and the presentation of the material do not imply the expression of any opinion whatsoever on the part of the UN Secretariat concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Note on the consultative process

This report of Learning from Disaster Recovery: Guidance for Decision Makers, May 2007, is a consultation version. Later versions will incorporate comments and additional or later experience. Many participants in the International Recovery Platform have contributed with examples and insights, including from the countries that have recently gone through extensive recovery operations. Many of the cases referred to in this version were presented at the IRP and ADRC International Forum on Tsunami and Earthquake, held in Kobe in January 2007, and at an IRP retreat held at ILO-ITC-Delnet in Turin, Italy, in November 2006.

To promote continuous "Learning from Disaster Recovery" is a major priority of the IRP and ISDR secretariats. We seek comments and contributions to the approaches and recommendations provided in this publication along with new case studies to improve the quality of the final publication. This publication and case studies will be added to the IRP website www.recoveryplatform.org which is being redesigned during 2007 to become and interactive site and tool for professionals and practitioners interested in recovery operations and policies.

Please forward any feedback and comments to: irp@recoveryplatform.org

IRP secretariat
Geneva and Kobe, May 2007

Table of Contents

I
Introduction

The management of recovery from the ravages of a disaster is complex and unwieldy, routinely involving many different needs, interests and abilities. The subject assumes great importance in any hazard-prone country, especially after a disaster, but it has seldom attracted the sustained professional attention of either disaster managers or risk management analysts. It is an even greater collective challenge for all those people involved in recovery operations to ensure that their efforts minimize the likelihood of future disasters by reducing previously existing conditions of vulnerability.

The attention of emergency services rarely extends to long-term recovery commitments. The international technical assistance community also is constrained by the differing financial procedures and various objectives of emergency, humanitarian or development projects. There is an extensive literature on the nature and effects of natural hazards, and the public often has a general understanding about the value of emergency preparedness. However, there is little practical guidance to inform the management or the specific efforts of the many people engaged in the extended period of recovery.

The International Recovery Platform (IRP) was agreed to be launched during the World Conference on Disaster Reduction (WCDR) held in Kobe, Hyogo Prefecture, Japan in January, 2005 to address these conditions of unintended neglect.[1] This report is an initial product of the IRP as it seeks to address the pressing needs of a specific audience: those government and other local officials or leaders, entrusted with the responsibilities for planning, managing and carrying out successful and resilient disaster reduction and recovery activities.

They may be referred to collectively as "disaster recovery managers", although few are likely to carry such a title in any office or on their calling cards. Included in many professions, their work spans the interests and draws upon the collective resources and individual abilities of public, private, commercial and non-governmental organizations.

The supporting research on this subject is timely, having been conducted during the period when recovery operations were underway following three epic disasters: the Indian Ocean tsunami of December 2004, Hurricane Katrina of August 2005 and the India/Pakistan Himalayan earthquake in October 2005. These and over 70 other disaster operations from the past 20 years have been considered to distill crucial information concerning recovery processes.

It is anticipated that by drawing on an initial review of specialist documentation, previous experience and accumulated knowledge this report can begin to provide a wider understanding and use of disaster risk reduction principles for more effective and enduring disaster recovery in the future. The overall objective of this report is to assist decision makers and other community leaders in their efforts to create more resilient societies through well-considered and effectively implemented recovery operations.

It seeks to strengthen the ability of societies to reduce or limit the impact of natural hazards, to rebound rapidly following any loss or damage from a disastrous event, but most importantly to become motivated to adapt and change during the recovery process. It is hoped that significant progress can be encouraged in the following areas:

---

1   The IRP has been created to promote collective learning, and was initiated by a consortium of United Nations organizations including the United Nations Development Programme, the United Nations Office for the Coordination of Humanitarian Affairs, the International Labour Organization, the International Strategy for Disaster Reduction, with the support and encouragement of Government of Japan, Hyogo prefecture and in close collaboration with the Asian Disaster Reduction Center. More information can be obtained about the IRP from its website at www.recoveryplatform.org .

- Improved understanding and abilities to incorporate risk reduction into recovery
- Guidance for officials managing recovery programmes, provided through the benefit of previous experience elsewhere; including examples of previous good practice.
- Improved global support for more effective management of recovery after major disasters
- Improved evaluation of reasons for loss and damage, and linking that understanding with the perceived needs and already available capacities within affected communities
- Integrating the range of economic, physical, economic, psycho-social, environmental and administrative dimensions into recovery planning, policies and programmes

- Development of a framework for future reporting, accumulation, dissemination and realization of disaster recovery experience.

By doing so, this report can begin to meet the needs of officials, such as the one in Pakistan immediately following the devastating Himalayan earthquake, who urgently sought from a United Nations official "…an institutional framework that reflects the best international experience [that] we can learn from as we work to recover from our earthquake."

II
The Context of Disaster Recovery

"...throughout the world, we must work harder in the recovery stage to avoid reinstating unnecessary vulnerability to hazards. As I have often said, "building back better" means making sure that, as you rebuild, you leave communities safer than they were before disaster struck."

- Bill Clinton, UN Secretary-General's Special Envoy for Tsunami Recovery,
20 December 2006

Throughout the world, the occurrence of a disaster provokes widespread concern over the personal losses and physical destruction, followed often by generous humanitarian assistance. Properly, immediate attention is devoted to meeting the urgent survival needs of people in the devastated communities, and much attention is given to the timely provision and management of emergency relief. As personal needs become stabilized, and the media attention fades, stock begins to be taken of the longer term consequences of loss. The longer and more costly work of disaster recovery is seldom accorded the same degree of supporting assistance, even though it may determine the future well-being of a community for years into the future.

Recovery is frequently understood in the general public view as consisting primarily in the physical reconstruction of facilities and basic services. Often post-emergency efforts are driven to provide this hastily, or as soon as possible. However, rapid and poorly considered reconstruction recreates the very conditions of vulnerability that expose people to the possibility of further losses in the future. Beyond the reconstruction of physical infrastructure, efforts to restore individual livelihoods show that the more challenging demands of true recovery are too often left to the concerns of local government officials and the shaken, but invariably determined, population. Even within governments there are many other matters demanding official attention, and invariably previously planned resource allocations are thrown into disarray.

As a noted development specialist with extensive field-based experience commented:

"Major disasters move societies and governments to create risk management systems and institutions, but in many cases their resources, influence and political strength tend to weaken when the memory of the disaster begins to vanish (and this happens very rapidly) … But despite that, the existence of those systems is an advance in terms of society's provision for disaster preparedness and response, but the tendency is that in practice these systems concentrate efforts in emergency response not in changing the conditions that create risks that become disasters".[2]

In order to counter such concerns it is important to address the underlying requirements of employment, economic opportunity, sustainable livelihoods, resumption of food supplies, reconstruction of public infrastructure, and community vitality. They can really only be restored to the extent that any recovery efforts can actually reduce previous disaster risks.

From a programme management perspective, recovery can be seen as an opportunity to introduce a wider public and policy recognition of disaster risks and the means to reduce them. More fundamentally, any rehabilitation or reconstruction activities following a disaster that fail to reduce the population's exposure to risks are merely sowing the seeds for future disasters. Risk reduction is integral to successful disaster recovery.

---

2   Gustavo Wilches-Chaux, quoting Andrew Maskrey (personal communication to Ian Davis, 2006)

III
Learning from Disaster Recovery

"… whatever else humanitarian organizations do, they must inject risk reduction measures into every post-disaster intervention - 'from moment one, most relief people right up to this day don't even think about this. They think about logistics … and that's as far as it goes.' By simultaneously pursuing action at the community level and advocacy at the political level, aid agencies can help put people - and risk reduction - at the centre of disaster recovery …" [3]

The foundation of this report is about learning from recovery, so thought needs to be given to how people learn from other's experiences. Information needs to be systematically compiled and analyzed before being conveyed in knowledge that can in turn be applied. In this respect, one objective of this report is to foster the creation of a "learning culture" in order to build upon past disaster and recovery experiences, and to apply their lessons so that future risks may be minimized.

This draws upon a learning process of experiences in recovering from disasters. Individual experiences, their description, analysis, generalization and resulting plans for action[4] can all stimulate and engage more people individually, or working together as an entire community, learn lessons from the information they have acquired. In the absence of any institutionalized local capacity for the retention and analysis of experience, an external specialist may be able to serve as a catalyst or be able to recycle the benefits of experience from another location or circumstance.

Following the Indian Ocean tsunami, in the totally destroyed city of Aceh, on the island of Sumatra, the Government of Indonesia initially decided that all rebuilt villages should be relocated 500 meters from the coastline. However, a previous study[5] conducted some years following the relocation of three villages after another tsunami in Indonesia in 1992 on Flores Island showed that all the residents had moved back to the immediate shoreline within a few years. By

presenting this study to the Indonesian planning authority (BAPPENAS) it influenced the Aceh Master Plan for Reconstruction to allow tsunami-affected villagers to rebuild in places of their own choosing.

Similar observations about returning populations were made after the relocation of villages following the earthquake in Latur, India in 1993, and they later influenced the Gujarat state government authorities of India in 1999. Through dialogue and local decisions following the Gujarat earthquake, the villagers decided that their own interests were better served by being able to rebuild in their original locations. In doing so, they were able to benefit from using improved designs and seismically safer construction techniques employed in reconstructing their housing.

The underlying feature of these examples is that there can be important individual factors in each disaster that relate to a particular society and therefore can provide useful and better solutions for their recovery. Some patterns have become evident and it is useful for officials responsible for recovery programmes to be aware of them. There is however also a caution, in that some experiences may be unsuited to a specific set of circumstances or local conditions, so there is also an obligation to review the various practices existing elsewhere through dialogue with affected communities and in terms of local contexts.

---

3   Sayagues (2001)
4   from the experiential learning cycle model developed originally by Kolb and Fry (1975).
5   Boen, (2001)

Nonetheless, as there are numerous examples of previous experience, there is an unmet need for these experiences to be documented. That enables them to be understood in a wider context, maintained institutionally, used in training and for public education. They can then be considered by people needing guidance and advice at times of need.

Two primary areas of learning discussed in this report are "Reducing Risks in Recovery" concerning the conceptual understanding of the issues involved and their interaction, and "Organizing Recovery" which proceeds into managing the operational responsibilities involved. Each of these core issues will be outlined and then discussed in more detail, drawing on specific examples from various recovery experiences. There are certainly other important aspects of recovery that are equally applicable in wider development principles such as gender equity, widespread public participation, the need for adequate human, material and financial resources, sustainability and ongoing monitoring and evaluation of accomplishment. As important as they are, not being specific to recovery processes, they are not dwelt upon in this report.

IV
Reducing Risks in Recovery

This report emphasizes the value of systematically incorporating risk reduction approaches into recovery programmes. More than 168 countries called upon international organizations, the United Nations system and especially governments to integrate disaster reduction into post-disaster reconstruction and recovery through the Hyogo Framework for Action: Building the Resilience of Nations and Communities to Disaster 2005-15. The three strategic goals of the Hyogo Framework for Action provide a basis for relating risk reduction to the recovery process, with detailed actions outlined in each of its five Priority Areas of Action.[6]

The first goal of "integrating disaster risk reduction into sustainable policies and planning" underlines the necessity of commitments from all stakeholders in the recovery process to place a priority on future safety in all of their planning and implementation activities. Simply stated, it is unlikely that risk reduction will be conceived, understood and "available" at the time of necessary recovery unless it has been factored into a comprehensive national programme of disaster and risk management before an actual disaster has occurred. There are quite too many uncertainties, pressures, and over-riding concerns at the time of a disaster or during the quest to return to "normalcy" afterwards to simultaneously craft and install a new and unfamiliar set of procedures.

The second goal of "developing and strengthening institutions, mechanisms and capacities to build resilience to hazards" should be an inherent characteristic throughout the recovery process. Building such capacity needs to be driven by the hallmarks of building resilience as an overarching concept in all organizational requirements, assured resources, and the sustainable application of various reconstruction strategies. To be successful this needs to be grounded in an understanding and continual monitoring of risks in societies, paying particular attention to the evolution and trends that are occurring with respect to dynamic elements of demographics, society growth, and the changing emphasis inherent in development strategies, both within national contexts as well as on a global or transnational basis.

The third goal underlines the important element of *systematic* incorporation of risk reduction approaches into the implementation of emergency preparedness, response and recovery programmes. In this respect, risk reduction in recovery activities requires prior planning, full integration and close attention to ensure that the various means employed relate to and provide additional support to the others. For example, a new building by-law to improve seismic protection will only be effective if it is built into the education of engineers and into the training of building masons, if public policy is inclined to enforce the regulation, and if the public understands the importance and demands the safety of the building in which they live and work.

The fundamental objective implied in each of these goals is that risks must be reduced in the recovery process to avoid repeating the disaster. But, crucially, the critical awareness and practices to enable that to be accomplished can only be developed and sustained through developed capabilities *before* a disaster occurs. Well considered recovery provides the physical opportunities as well as establishing a collective mindset to introduce changes in structural and non-structural risk management practices, but practice indicates it is seldom that full benefits are derived at the same time. Hence disaster recovery may be more adept at stimulating change, the full benefits of which are more likely to be received in future applications. Therefore it is a cardinal principle that these measures need to be planned and coordinated in an integrated manner for there to be a wider use of this knowledge by more people and to sustain the resulting benefits of added protection into the future.

---

6   The full contents of the Hyogo Framework for Action may be seen at www.unisdr.org/hfa

There is a similar ongoing need to educate members of the public too, in matters of their own previously accepted views, attitudes and behaviour in order to progressively enhance the common value of public safety. This may involve specific aspects of public interest and support for improved safety legislation, improved enforcement of building standards and regulations, and better understanding or wider compliance with zoning and other forms of land-use planning controls. Frequently recovery is pursued with haste, but this can easily turn out to be a false efficiency, if the very same conditions of vulnerability or exposure are similarly recreated for returning residents or future generations.

A. The Challenge of Limitations

There is a general recognition that disaster recovery offers unique opportunities to introduce or strengthen risk reduction or related safety measures. But what are the constraints on these attempts? To what extent are existing measures of development examined to consider their own role in recasting risks anew ? While it should be an explicit aim of reconstruction to reduce risks to avoid a repetition of the disaster, there is always a possibility of inadvertently rebuilding vulnerability within a given society.

Particularly awareness needs to be given to the influence that large sums of recovery resources exert in re-establishing previous or even creating new risks. In the absence of any prior consideration of risk reduction in the recovery process, such detrimental policy considerations can easily prevail, especially when one factors in the haste and extremely short times for disbursement associated with any form of disaster-related resources

Obstacles to the introduction of safety measures can be significant, but they can be minimized if there is sufficient foreknowledge and understanding of the wider contexts or opportunities to counter them. There are likely to be additional costs when risk reduction is included in recovery activities, but they may be considered justifiable and even beneficial when understood as longer term investments to protect much more greatly valued assets. There is

certainly a need to expand the training of planners, architects, engineers, and builders in new or safer ways of building, but this additional effort also represents added value to the society in education, more durable construction and greater public safety even without the occurrence of a crisis.

There may be a greater value in taking extra time to accommodate both wider understanding and to install better conditions if the population is safer as a result. Above all, for these elements to be incorporated in successful disaster recovery, these concepts need to be embedded within, or "mainstreamed" into a range of government policies and planning. This thinking can be institutionalized within various social sectors such as education, health, infrastructure, environmental and natural resource management, and investment priorities. When coupled with informed and effective local public administration, this wider knowledge can provide the basis for sustained public commitment over time, and across generations.

Reducing risks in recovery essentially expands the resilience of a community through both structural and non-structural measures, but only as long as there is a commitment to ensure that the rebuilt institutions and structures are more secure than they were before. Some of the pitfalls of poorly supervised or rushed recovery can be seen from an earlier experience in Algeria.

In 1954 an earthquake caused massive damage in then-Orleansville, Algeria. A building boom followed but with indications of negligence and lax controls. Then, just 26 years later in October 1980, the same town, but now called El Asnam following Algerian independence, was again devastated by an earthquake. Eighty-five schools were destroyed and the damage surveys noted the lethal legacy of their unsafe reconstruction following the previous earthquake. It was fortunate that the earthquake occurred out of school hours, so no children were killed. This long ago example nonetheless serves to emphasize how a still-often rush to rebuild can result in safety standards being compromised or ignored. This is more likely to occur when prevailing standards are low, exist but are not enforced, or

where either officials or construction practices assume little regard for accountability to the intended occupants of a building.

B. The Promise of Opportunities

There are many different measures or activities that can be pursued to reduce disaster risks, but as suggested above, none of them are likely to be effective when taken in isolation. Few, if any mitigation measures are specific to recovery following a disaster, and most are integral to other responsibilities of disaster reduction. These can be composed of "structural" (or physical) measures such as retrofitting buildings, protecting lifelines, employing natural resources as protective devices or enforcing building codes. They can be considered additionally as "non-structural" procedures (or arrangements and policy matters), such as those involving education, public awareness, training and capacity building, transferring or spreading risk more widely through insurance schemes, or the use of legislation and normative regulations and standards that contribute to a safer public environment.

It is particularly important for anyone using a specific approach to be aware of the various options as well as their inter-dependence in any safety strategy. Whether they are cited in the Priority Areas of Action of the Hyogo Framework, or referred to more generally as a "ring of protection", or "a chain of safety" in particular settings, the importance of these combined elements should be firmly imprinted on the mind of the whole community and its leaders.

The value of any individual effort to reduce risk is immeasurably increased by the extent to which it relates to and can reinforce other activities. This can be illustrated by a knowledgeable public which also has an effective early warning and evacuation strategy in its local community, backed up with both the resources and skilled abilities committed to safe construction, resilient infrastructure and good disaster preparedness plans.

The combined experiences in Bangladesh are often cited to demonstrate progressive and comprehensive approaches to reducing risks following disasters. After the catastrophic cyclone that occurred in then-East Pakistan in 1970, and which partially contributed to the independence of Bangladesh, a number of cyclone shelters were built in areas adjacent to the Bay of Bengal. It was unfortunate at the time that there was limited opportunity and virtually no resources to thoroughly consider or to erect shelters properly given the other pressing demands on the new and impoverished nation. As a result, after many years of disuse, lack of maintenance, and changing demographics which resulted in altered residential distribution the shelters were found to be poorly designed, ill-sited and often located beyond a reasonable distance for people to access in times of need.

Twenty years later, and following another major cyclone in 1991, Bangladesh authorities were motivated by the frequency of disasters and a sharpened general awareness to disaster risks to reassess some of their disaster reduction strategies as a part of the recovery process. The cyclone shelters were redesigned, enlarged, and relocated in closer proximity to current population centers. Cultural traditions and behaviour also were taken into account, with later accommodation even being made for the safe keeping of the economically important family livestock. Important design modifications required the shelters to be constructed with two elevated stories also to protect families displaced by floods. All other official buildings on the low-lying coastal lands and off-shore islands were required to be built of resistant engineered *pucca* construction. In all cases newly built official public buildings such as police stations and health facilities were to have two stories so they could serve as informal emergency shelters in times of flood.

Crucially, all shelters were built so that they could be used routinely throughout the year as schools, health dispensaries or other public facilities. These everyday functions ensured that the buildings were well-maintained, and more importantly, that they assumed a familiar public association with civic needs and disaster preparedness. Over the years, these community cyclone and flood shelters have become an integral element within an overall local risk

reduction strategy combined with developmental benefits. These comprise public education, preparedness activities, and are a focus for emergency exercises and evacuation drills practiced by local preparedness committees that together have come to be widely characterized as people "living with floods".

By contrast to these examples of reinforcing disaster reduction measures in recovery and seeking to incorporate them in ongoing public behaviour or development practices, individual actions alone, or weakness in any area of protection places the community at greater risk of loss or damage. In the case of massive mudslides and floods that occurred in Venezuela in December 1999 killing between 10,000 and 20,000 people, many recovery actions were planned. After the disaster the national government created two recovery organizations. One, the Autoridad Única de Área del Estado Vargas was composed as an urban planning authority, while the other corporation, CORPOVARGAS was created as an executive agency. The resulting experience demonstrated that it takes more than the creation of an agency, or two, to assure success.

These agencies developed a number of comprehensive projects to address future hazard threats as part of the recovery programme, with many of them being supported by international organization and bilateral government funding. They were developed in parallel with equally comprehensive policies and strategies implemented by the newly created government agencies which, at least in theory, adopted an integrated disaster risk management strategy. However, despite the apparent adequacy of resources available to the government bodies concerned to implement this integrated risk management project, questions have been raised by independent commentators why such limited progress has been made.[7]

Some observations suggest that the recovery operation occurred within a highly politicized environment, with the Government regarding the capitalist economic model as the root cause of the disasters that affected the country. Other possible limitations related to a marked lack of political will to put disaster risk management into practice, and where measures had been taken, they were uncoordinated. Local claims were also made about inadequate financial resources to implement the recovery actions. By contrast there were other indications that rather than financial limitations, there had been serious neglect by various government agencies to maintain flood mitigation measures constructed since the flooding and landslides occurred.

Later analysis demonstrated that despite the extraordinarily heavy rainfall (equivalent to two years average precipitation received in two days), there were other equally serious human factors involved. These focused particularly on tolerating the construction of housing on steep and degraded slopes. Despite their earlier viability 30 to 40 years before, these locations had since become unstable because of the unplanned and uncontrolled local development that was allowed to occur. Another social dimension noted after the disaster was a failure to provide proper economic incentives to encourage relocated families to remain in their new locations. This resulted in most of the families returning to their original locations, re-occupying hazardous areas to await the next disaster.

C. Lessons from Experience

Despite such obstacles, there are ways for risks to be reduced in the recovery process so as to avoid a repetition of the disaster. Recovery provides a physical opportunity as well as the basis for collective motivation to introduce or expand structural and non-structural risk reduction elements. It is crucial that the variety of specific options be reviewed and considered for both their relative effectiveness and suitability in given locations or varying social conditions.

---

7   Wilches-Chaux, (2006 c) and Jimenez Diaz, (2006), in International Recovery Platform Database

Core issues that contribute to risks being reduced in recovery are:

- Integrating disaster risk reduction into any *prior* planning of recovery, including its explicit reference in anticipated recovery policies.
- Effective risk reduction can only proceed from a prior identification and assessment of prevailing or foreseen risks, whereas much of the immediate recovery processes are determined by a *post-facto* assessment of physical losses.
- The systematic incorporation of risk reduction approaches into the implementation of emergency preparedness and response, and amongst the primary actors involved, *prior* to their immediate engagement in recovery programmes.
- The development or strengthening of institutions, legal mechanisms and capacities that can build resilience to hazards throughout the recovery process.
- Building risk reduction values and approaches into the human dimensions of recovery.
- Ensuring the more tangible aspects of risk reduction are applied in the physical reconstruction of new buildings and infrastructure, while making extra efforts to ensure that informal structures and local facilities which most people inhabit are also safe and secure.

In all cases these requirements need to be coordinated in an integrated manner, which includes being mainstreamed into the wider dimensions of overarching government policies and planning. In recent years there has been evidence that a number of countries have developed more comprehensive approaches to disaster and risk management. Countries such as Bangladesh, Colombia, India, Indonesia, Mongolia, South Africa, Sri Lanka, Thailand, among others have developed good and improved institutional and legislative frameworks for disaster risk reduction, but in almost all cases these developments proceed over a lengthy time period and have seldom yet been able to influence recovery processes.

A review of practice, however, also suggests that there are growing indications that disaster risks are becoming better understood. The means to reduce them can then be expressed more explicitly in recovery policies or plans. However, even then considerable challenges remain to ensure effective implementation and sustained commitment to the expressed intentions, which can also be learned from experience. Three brief case examples illustrate both positive and negative aspects of these issues.

First, the systematic processes that can be followed for effective recovery were expressed well by the Government of Grenada's Agency for Reconstruction and Development following the severe damage caused to the island state by Hurricane Ivan in 2007. It stated that the Government would be guided by the following principles for mainstreaming disaster risk reduction in the reconstruction process, and in their development decision-making in general, by:
- An integrated, multidisciplinary and coordinated approach to disaster risk reduction and development planning.
- Enhancing safety standards, including strengthening of the regulatory and planning framework for disaster risk reduction.
- Promoting participatory approaches including community mobilization and active civil society involvement and engagement.
- Building local and national capacities for increased resilience, risk management and sustainable development.
- Improving the living conditions of the affected communities and sectors.
- Making appropriate information about disaster risks available for reconstruction activities.
- Promoting effective public awareness and education, taking advantages of ongoing initiatives.
- Ensuring the inclusion of gender sensitivity.
- Assuring continuous monitoring, evaluating and learning.

But the statement closes with a telling reservation, that, "While significant institutional and policy changes were effected to reduce risks as part of disaster recovery plans, we do not have sufficient data or assessments to measure what has been the impact of these efforts in reducing risk in the face of future hurricane impacts. [There is therefore a] need for longitudinal studies to be conducted".

The problem is not limited to individual government outlooks as the following statement questions the substantive risk reduction resulting from the wider roles of external assistance and international cooperation in the recovery process following Hurricane Mitch's devastation in Nicaragua in 1998:

"There is no practical way to measure progress in regional risk reduction. As a consequence, it is impossible to say whether the risk levels in the countries of the region have actually been reduced or not.

In Nicaragua, for example, the result of foreign assistance for disaster reduction has been many reports, maps, and publications that are not being utilized and whose existence is, in many instances, completely ignored. Very few technical studies have actually been implemented in practice and there is no practical way to determine whether Nicaragua's risk of natural disasters is higher or lower than five years ago. Similar to the country's economy, Nicaragua remains very much dependent on foreign assistance for disaster reduction activities.

The observed impact (or lack of it) of international cooperation in reducing natural disasters risk in developing countries seems to indicate that important changes are required in the mechanisms that are currently utilized to provide, implement, and evaluate this assistance." [8]

Even when highly skilled personnel, technical abilities and tools exist within a country, that is no guarantee, that disaster risk reduction is necessarily embedded within national plans, or if so, to what extent they are able to be translated into common, not to say, expected practice throughout a society. Following the earthquake which destroyed the greater part of Bam, Iran, the following observation was made:

"Although, technical tools (building codes) and extensive scientific and technical information to predict natural hazards is available within the country, and policy and legislative instruments (the National Disaster Management Plan) have been enacted, their application for risk reduction has been limited. In the practice of reconstruction little attention has been paid to risk reduction." [9]

The following examples are provided to illustrate largely successful efforts or at least partial accomplishments of building disaster risk reduction into recovery processes. But each also refers to issues that suggest that even positive experiences are not without their challenges or limitations. Nonetheless, they provide a rich spectrum of experience and provide the evidence that indicates it is possible to improve safety levels in complex and demanding recovery programmes. In that respect they may also provide encouragement to officials that the challenge is well worth taking. Key points are highlighted after each case.

---

8   Wilches-Chaux (2006 b), in International Recovery Platform Database
9   International Recovery Platform Database (2006)

Risk Reduction in Recovery in India: following earthquakes in Latur, Maharashtra (1993) and Gujarat (2001)[10]

Post-disaster recovery offered considerable opportunities for risk reduction in both of these instances. In both Latur, Maharashtra and Kutch, Gujarat, the existing housing made of stone and mud was vulnerable to earthquake damage. Hence, in both regions the building codes were reviewed after their respective earthquakes, with the risk level and corresponding building standards in Latur upgraded to the highest level of Zone 4. New building guidelines with safe seismic features appropriate to local cultural standards were promoted through information campaigns. Individual house owners were given incentives through rehabilitation grants to repair and rebuild damaged houses, but only if they conformed to safe seismic building standards.

To maintain quality in both Latur and Gujarat, independent structural engineers were required to conduct quality audits for seismic safety. They evaluated both the construction of new buildings, as well as retrofitting work on existing dwellings. Initial reports revealed many defects and construction below expected seismic standards, especially in owner-built construction. Expected cash installments were withheld for those not conforming to standards, with the desired result that expected corrective measures were taken. These measures were supplemented by an information campaign and the engagement of NGOs to demonstrate a variety of means for safer construction. Together these methods resulted in 90 per cent of the construction supported by the reconstruction funds achieving safe standards, as verified by independent surveyors.

In Gujarat, a multi-hazard approach was pursued by assessing and then repairing or strengthening water conservation check dams so that the risk of droughts could be minimized and livelihoods safeguarded. Many civil society groups including women's and community based organizations were involved in promoting seismically safe building standards. While this wider participation advanced community resilience in some aspects, other forms of risk reduction such as the strengthening of undamaged but still seismically vulnerable houses, schools and health centers was not addressed. This required longer term resources and political and community commitments which were not prioritized after the completion of the rehabilitation programmes.

Implications for Risk Reduction in Recovery

- Independent evaluations serve to ensure quality and standards control, and are crucial for compliance in risk reduction building measures.
- Incentives are beneficial to motivate good practices and can be decisive in terms of assured accomplishment, especially if associated with external assessments.
- Any effective strategy to reduce risks needs to be based on evident governmental commitment realized through budgetary and policy support, and is dependent on full community understanding and 'buy-in' for success.

10 Pardeshi (2007a), in International Recovery Platform Database

Risk Reduction Measures in Indonesia: after the Indian Ocean tsunami (2005-2007)[11]

Particular emphasis was given to including risk reduction measures in housing and livelihood recovery processes. Environmental assessments incorporated risk reduction by applying lessons from past disasters and specifically from the Indonesian experience in the relocation of populations after the Flores Island tsunami in 1992. Members of the public were consulted about these lessons and to ensure that this experience was taken into account when the new shelter strategy was considered. A specific example of this is the decision that was made to allow people to rebuild in their former chosen locations, *in situ*, reversing an earlier intention that the populations would be relocated to another location.

Risk reduction measures were incorporated in several, and mutually reinforcing, areas of rehabilitation activity:

In housing, seismically-safer designs for houses were prepared and circulated, including plans for retro-fitting undamaged but still potentially vulnerable dwellings. Construction was encouraged to be undertaken by owners with their own personal involvement guided by the technical supervision of locally-based engineers rather than the work being contracted out to large or external construction companies. These measures were adopted to motivate the wide dissemination of risk reduction knowledge and to instill a direct and local ownership of hazard resistant construction. Throughout the reconstruction period public information and communication strategies were employed to widen the community's understanding of the other and various hazards they faced. This reinforced the rationale and the purpose of using alternative hazard resistant designs

Infrastructure received equal attention in reducing risks. The recovery of all major bridges, public facilities and dams was designed and built to resist the multiple hazards that could affect the area in the future, including both seismic and tsunami threats.

Spatial planning was assigned an important role in reducing the risks of future disasters. Environmentally fragile zones were designated along the coastline so that no new construction would be permitted, in order to protect mangrove regeneration. Special consideration however was provided for the fishing communities in recognition of their particular requirements, which were economically important to the overall recovery process of the area and which helped to restore individual livelihoods. The layout of towns and cities was designed to avoid the fragile coastal belt while also being able to conform with avoidance of likely tsunami risks. Similarly, road alignments were planned with obvious evacuation routes indicated and the provision of higher ground locations for escape and refuge in the time of an emergency.

The recovery process also was utilized to revitalize local governance practices. District administrators and other elected district councilors received training in disaster risk awareness and preparedness. Local administrations (*SATLAK*) likewise received instruction in addressing disaster response requirements. Local officials promoted awareness programmes about disaster risks, and were assisted in building their own capacities for implementing disaster early warning system throughout the districts.

11 Pardeshi (2007a), in International Recovery Platform Database

These cumulative and mutually supporting risk reduction efforts also pose several challenges which can be relevant in other recovery environments.

Since risk reduction in recovery activities seeks to transform both thinking and behaviour, its success can be heavily dependent upon its cultural sensitivity and relevance to local circumstances. In the case of Aceh in Sumatra there was a long-prevailing condition of conflict. Therefore the recovery planning, reconstruction management and allocation of financial and other resources was directly under the authority of the President. This highly centralized direction works against efforts to realize the recent decentralization law and can erode the special autonomy given to Aceh. Such a condition illustrates too, that recovery does not occur in a political or state vacuum and that other features can impede progress, as in this case when risk reduction initiatives and capacity development are not so easily able to be owned by local authorities or local communities. To the extent possible, there is a need to support decentralized capacities rather than relying on central planning in large, diverse and fragmented polities.

A second limitation was experienced when local representation in the recovery process at the district level was minimized by the more dominant role assumed by the military authority during the period of emergency response. This consequence revealed the importance of transitional responsibilities between emergency relief and later recovery while it also undermined local disaster response and planning capacities.

The enormity of recovery requirements following a major disaster can easily result in the levels of assistance and overall resources overwhelming existing administrative and management capabilities. Aceh normally absorbed a national development budget of about US $ 300 million before the resulting rehabilitation plan was prepared in the amount of US $ 4 to 5 billion. This poses tremendous challenges for limited local technical, procurement and administrative capabilities. Under such conditions there can be a strong temptation to rely upon large and external contract-driven management and delivery agents. These arrangements then are likely to exclude priority considerations for enhancing local employment and nearby economic opportunities, while also raising additional external possibilities of profiteering or corruption. Any efforts to institute transparency and to encourage monitoring of both expenditure as well as progress by local elements of civil society are desirable. For their part, international organizations can strive to set positive examples by engaging international auditors to monitor their own financial expenditures related to recovery activities.

Taking account of both the informed planning process that was attentive to the value of including disaster risk reduction in the recovery process, and the resulting measures that were actually employed, there still remained matters of limited capacity at various levels of government. The lack of accountability about insuring adequate follow-through in risk reduction or adherence to standards that may be understood, if not always followed, represent a specific area of concern. They are often overlooked because of the "rush to succeed". These aspects relate to a frequent lack of capacity, limited training, or low levels of local operational and administrative abilities in both official agencies and NGOs alike. As a result, preliminary observations suggest that in this instance many of the rebuilt houses, structures and individual livelihood assets are not as seismically safe now as they were planned to be at the start of the recovery process.

Implications for Risk Reduction in Recovery

- Successful recovery programmes need to be transformative, culturally sensitive and relevant to the prevailing situation.
- Firm government commitment and solid financial backing is essential at all concerned levels of engagement prior to any recovery programme design or implementation. Means to ensure the sustained policy, administrative, technical and resource commitments will determine the ultimate success of a safer population for the future.
- The adequacy of existing capacities to absorb recovery resources and to achieve realistic expectations must be assessed, with necessary measures considered or installed in governance, local communities, NGOs and private sector actors so as to avoid overwhelming conditions.
- Planning, technical and operational abilities are essential but not sufficient by themselves to ensure that disaster risk reduction is realized through recovery processes. Equal attention and resources need to be invested in long-term policy commitment and management processes to provide for sustained recovery and a safer population.

Risk Reduction Measures in the Maldives: after the Indian Ocean tsunami (2005 - 2007)[12]

As the Maldives was not routinely subjected to major disaster threats in recent memory, when the Indian Ocean tsunami dramatically inundated the entire country, it highlighted the country's vulnerability to natural hazards. As a small country of 1192 widely distributed islands and atolls with a maximum elevation of only 1.5 meter above sea level, the post-tsunami recovery was an important opportunity for the Maldives. It provided an unprecedented chance for the government to recognize their exposure to disaster risks and to raise the awareness of the population. This provided the impetus to address disaster risk reduction issues by introducing a coordinated tsunami risk reduction and recovery programme with several related features. Lessons were also learned in the process.

Initial government plans relocated people to some of the larger islands in the belief that this could provide residents with more rapid access to safer places in times of emergency. However while this was seen as a solution for particularly vulnerable settlements, as experienced elsewhere there was an unwillingness of communities to move.

An institutional policy framework for disaster management was created, comprising a legal foundation, well-defined organizational responsibilities and a strengthened Disaster Management Center. The strategy studied the disaster risk profile of the country and then designed multi-hazard preparedness and response plans for implementation at all levels. An early warning system was established throughout the country, and both a national and regional Emergency Operational Centers were created. Public awareness, training and capacity building were pursued to ensure that people's understanding and human resources would contribute to a sustained interest in disaster reduction.

In considering their defining island and marine environment, government authorities sought to adopt structural measures that could provide safer island habitats for the residents. These included altering the physical features of some islands by reclaiming land, elevating some areas for added protection, and creating wider or more numerous environmental protection zones. Elsewhere easier access to emergency facilities was created. However, it was found that reclaiming lands or creating elevated areas were very expensive solutions that also required a high level of technical support that could not be sustained.

Throughout the housing reconstruction and repair process, an approach to "build back better" was adopted, emphasizing stronger and safer construction methods. As desirable as that was, the massive reconstruction also caused an acute shortage of building materials, resulting in high prices of all materials.

Implications for Risk Reduction in Recovery

- Relocation of populations seldom represents long-term viable options, and are generally contrary to people's wishes or commitment.
- The use of existing natural resources and environmental conditions can be useful means to reduce disaster risks, but careful consideration is required before projects embark on major alteration of natural forms.
- It is important to assess the adequacy of material supply and the availability of labour and skills before embarking on large building programmes to make certain the programme is sustainable.

12 Jameel (2007), in International Recovery Platform Database

Risk Reduction Measures in Thailand: After the Indian Ocean tsunami (2005 - 2007)[13]

In its recovery process, the Thai authorities addressed risk reduction issues with particular attention given to early warning and communications issues. To provide coherence to an overall approach the government adopted a Strategic National Action Plan for Risk Reduction for the country and initiated specific measures. These included a major commitment to the design and installation of a comprehensive early warning system consisting of sensors and buoys, supplemented by the establishment of sea level gauge stations within a larger regional tsunami observation and monitoring network. The country also launched a coastal "Warning Tower Construction Project" for vulnerable areas throughout the country. Each of these physical measures was complemented by the recognized need for wider public understanding and disaster risk awareness within local communities. The "Community Based Disaster Risk Management" programme was adopted for capacity development and to increase awareness about building a "culture of safety."

The development of several ambitious and related activities with the many pressures that often accompany expectations in recovery programmes requires equal attention to be given to the activation and integration of the various components in a comprehensive strategy. Otherwise there is a risk that fragmentation may result with the ultimate concern of losing integrity within the system as a whole. Capacity development analysis, and a phased introduction of abilities, with accompanying training sustained over time, are means by which such challenges may be minimized.

Implications for Risk Reduction in Recovery

- The effectiveness of a complex risk reduction process, such as an early warning system, is dependent upon being viable in every aspect of the hazard monitoring and warning dissemination chain. Similarly, disaster risk reduction processes can be realized and sustained by ensuring that all parts of the system are fully functional in technical, logistical, and administrative skills, and sustained by human resource capabilities and financial resources.

---

13 Ratanakin (2007) , in International Recovery Platform Database

V
Organizing Recovery

While this report draws out principles and provides examples for developing institutional arrangements that can strengthen disaster recovery, it also raises some issues as to what may constitute "good practice" in the administration and management of recovery. However, at its most basic, it is clear that organizing effective recovery requires a single point of overall responsibility in government.

The complexity of the recovery process requires a dedicated, or possibly even a purpose-designed organization. This may be achieved by having a coordinating organization or authority designated at the apex of political power and decision making, or alternately being arranged in a manner to exercise authority over established surge capacities built into existing ministries. Individual country circumstances or different operational conditions following a disaster event may be influential in determining whether recovery management should be handled by a special task force in government or rather be guided by the normal line ministries.

The likely scale of a disaster is another related element important for determining which particular organizational practices may be most suited. Clearly the extent of coordination and the relative focus of a smaller scale disaster affecting a limited area or locality would be quite different than the requirements of a national disaster, or even more so for one having international implications. Such issues may substantially be determined by the conduct and analysis of a national risk profile. That will establish the extent to which the management of disaster recovery is more likely to be influenced by regularly occurring or annual disaster risks, such as seasonal flooding and recurrent storms, or whether the country (area, community) is prone to the possibility of much more infrequent catastrophic events such as earthquakes or volcanic eruptions. Other hazard-specific criteria such as relative warning times, speed of onset and the duration of adverse effects of possible hazardous events can also help to refine the most appropriate management requirements following a disaster.

Another key organizational issue concerns the linkages or the discontinuities that exist between the short-term management of the immediate emergency response to a disaster and the longer-term requirements of recovery. This is relevant to administrative and operational procedures such as in altered human resource requirements or temporary assignments between agencies, in the use of routine or expedited procurement practices, and even in basic legal issues such as those ensuring a common level of professional standards if foreign personnel are engaged in recovery operations.

In any resulting arrangement, the following characteristics will be important factors for success:

- A clear political and operational mandate supported by appropriate legislation.
- Strategic plans for reconstruction and effective recovery, previously established;
- Adequate financial, human and material resources dedicated to recovery.
- direct links to all line ministries, as well as other, possibly external actors or institutions involved, such as within the private or commercial sectors and parastatal bodies.
- Knowledge of the dynamics of the disaster recovery process.
- Mechanisms that permit continual two-way consultation with all local communities engaged in the recovery process, taking account of their various degrees of damage and needs.
- An effective system to provide disaster recovery management information.
- An ability to engage external organizations which already posses required skills and abilities.
- he understanding and abilities to access grants, loans and other financial sources, derived from both established internal allocations as well as specialized external opportunities that can arise following a disaster.

A. Awareness of Pre-Disaster Deficits

The seeds of failure to recover may stem from unaddressed pre-disaster weaknesses. A senior physical planner who played a leadership role in the reconstruction of Skopje, Yugoslavia (1963), and Managua, Nicaragua (1972), after they had each been devastated by earthquakes has elaborated this fundamental problem with recovery.[14] As a senior external adviser to the reconstruction programme he noted a tendency for everyone to blame the disaster for various problems. However, gradually he realized that 90 per cent of the problems being encountered were present before the disaster occurred. The disaster simply exposed them, still waiting to be addressed. They included a number of residual constraints, such as poor government, insufficiently enforced building codes, lack of planning, limited accountability, corruption in various areas etc. This recognition raised serious questions as to how far it was possible to go in addressing such weaknesses in the society in the course of reconstructing towns and cities. It was even more confounding as people involved in managing recovery seldom are provided either the mandate or the authority to deal with far-reaching societal weaknesses.

Another commentator has related how these pre-disaster deficits can have a forceful impact on government officials.

"After an earthquake strikes, as planners, you will be thrust into the world of instant life or death decisions, mounds of building permit applications, daily dealings with a new bureaucracy with incredible paperwork requirements, and unremitting pressure to get things back to normal. Everyone will want a plan, but few will want to take the time to plan. You will be expected to have answers to problems you have not even thought about before. You will be dealing with new experts - geologists, structural engineers, and seismologists with information you will not understand. If damage is severe, you may be saying, "Let's relocate the entire community." Inadequacies in existing plans and applications will be glaringly apparent. Nothing in your planning education has adequately prepared you to deal with the problems and responsibilities now on your desk." [15]

However as these prevailing conditions can have a major influence on the success or frustration of recovering from a disaster, the only solution to address such pre-disaster deficits is to include measures that can minimise them in the general development planning. While there can be no quick or absolute remedies to long entrenched conditions, there are positive attributes that can be employed in disaster recovery management. The following elements may be considered as important principles that can define a favourable context for the successful management of recovery:

- Better, more accountable, open and participative government at all levels of activity.
- An assertion of the importance of ethical standards and professional integrity in public life.
- Officials, and government practice setting positive standards through tangible examples of good practice.
- Developing and enforcing an appropriate and realistic set of building by-laws.
- Public involvement, understanding and acceptance of land-use planning controls.
- Enhanced and continuous commitments to education and professional training.
- Readiness to review and as may be required, reform key institutions.
- Encourage well-informed and well-targeted advocacy by civil society on government.
- Long term measures to reduce poverty and recognize other forms of inequity within a local society.

Given the widespread implications for any of these desirable traits, it is also necessary to recognize that any reforms to alter behaviour will depend on consistent efforts, maintained over time. They may require new legislation and certainly both human and

---

14 George Nez personal communication to Ian Davis, 1974
15 Spangle (1991)

material resources. A well-considered recovery programme may just provide the impetus to bring these factors, and a dedicated will to succeed together.

B. The Politics of Recovery

All aspects of disaster management including emergency relief and longer-term recovery occur within various political contexts. It is essential that this fundamental truth be acknowledged, as well as recognizing that motivations of different organization vary as much as their abilities do. While externally agencies express their impartiality and express their intentions to give priority assistance to those who are most in need, there is an unavoidable reality that any assisting organization needs to work closely under the government's direction. While NGOs often play a useful intermediating role between public interests and official policies, they too can only operate successfully within the recognized official authority of the locality or country where they are engaged.

The aim in recovery planning by the government may be best served by seeking to depoliticize the process as much as possible. Authorities can insist on accurate analysis of what prevailing risks were not adequately addressed before the disaster occurred, rather than only concentrating on the assessments of damage, needs and capacities being the basis for additional support. There is often a need to balance local needs or interests, whether of a local politician or one segment of a population against another, in the values to be achieved in terms of common benefits for the wider community.

Some of these attributes have been summarized by a senior Indian official with considerable experience in disaster management activities and in managing recovery programmes, specifically following the unprecedented damage caused by a cyclone in Orissa State (1999) and in the earthquake in Gujarat (2001).[16] By observing the political dynamics that

involved both national, state and local politicians, the following points can guide effective recovery management:

- Governments have the responsibility to bring together professionals and specialists to support all aspects of the disaster management and recovery processes. No other entity should be presumed to replace this fundamental authority and the responsibilities it entails.
- Policy issues largely predominate at the national level, while district level priorities relate more to actions, problem solving and regulation.
- Professionalism and technical skills are crucial resources, best obtained by recognizing the respective roles of professionals and government officials, and which among them manage their contribution effectively.
- Many *potential* disaster issues are not routinely part of most government officials' duties, nor are they frequent in wider political debates. However, as soon as a major disaster occurs, they present numerous challenges to the government.
- Politicians, political parties and their associated staff need to set the highest ethical examples.
- Although criticism of government by opposition interests can mobilize the government to improve or make remedial actions, disasters and their recovery processes should never become a "*playing field for maligning the government for political returns.*"
- Local politicians often do have an understanding of their constituents at the local level, and this can provide an advantage over technical experts and administrative officers who may be more removed from the field truthing of the affected communities.

In recognizing that "once in the field a politician too looks forward to a long-term career in the political arena", there may be a value in seeking to balance the technical advice of experts with the overall "feel" and public perceptions of politician. These may be summarized as:

---

16 Sinha (2006) , in International Recovery Platform Database

- Recognize disasters are political events.
- Accept the political roles in recovery management.
- Appreciate the value of the insights of politicians, but also try to understand the contexts which inform them.
- Develop appropriate, and balanced, mechanisms to encourage political participation.
- Inform technical issues with political wisdom and insights.

C. Governmental Limitations Following Disasters

Disaster events place immense demands on government officials and the public, especially those affected have very high expectations of their leaders and public officials. Disaffection can be created easily by dramatic or superficial media coverage, especially when it is widely circulated to countries where many of the recipients of the information may have little personal knowledge of the distant countries affected by a disaster. Unfortunately the brevity or superficiality of the coverage easily tends to under-represent the challenges to governmental capacities as local efforts to cope are more easily displaced by images of emergency relief supplies flooding in to the disaster area.

This partial view typically discounts the enormity of the demands of immediate response lapsing into general observations of seeming governmental "weakness, incompetence, corruption and slow response. They are many fewer accounts circulated of the way hard-pressed and often isolated government officials cope to achieve virtually impossible accomplishments under extreme pressures in a radically depleted government office. The much less extensive coverage, and diminished external interest, of the later and often protracted recovery activities equally demonstrates the importance of developing country's own capacities for effective recovery programmes.

There are a number of underlying problems affecting recovery, and many of them grow from the nature of under-development or alternately the tolerance unsustainable practices which may actually be associated with some elements of rapid economic development. With sufficient foresight and dedicated programmes, governments can work progressively to address a wider understanding about the nature of hazards to which they are exposed, seek to minimise conditions of vulnerability, and the potential consequences of pre-disaster deficits such as inadequate availability of housing that spawns informal settlements on already unstable hillsides. In organizational terms, governments need to overcome the unexamined consideration that disaster occurrence, as well as the following recovery processes need to be included within wider national planning and developmental objectives.

A senior Mozambican official responsible for the management of the flood disaster and recovery programme in 2000 listed several typical concerns a recovery manager would have to tackle: coordination, selection of agencies, allocation of assisting groups, fixing standards and determining whether assistance should be used to tackle long-standing deficiencies as well as immediate needs. The complexity and diversity of these factors as well as the interaction with many different types of actors being involved only begins to explain why there has been such neglect of disaster recovery in writing, policy and practice - typically, until *after* a disaster happens.

There is much to admire in an experienced government official's insight and efforts to capitalize on a disaster, as occurred in Mozambique as when the government authorities "decided to use the flood recovery to rectify some long outstanding weaknesses in our infrastructure caused by over 20 years of war in our country."[17] Similarly the aftermath of the Indian Ocean tsunami and its total devastation in much of Sumatra, Indonesia provided a welcome opportunity that was seized upon by previously warring elements of the population to make peace and to use the recovery process to develop a new level of well-being, stability, and a more productive society for the entire community.

---

17 Dr. Leonardo Simao, personal communication in interview with Ian Davis, Maputo, Mozambique, (2006)

Learning from Disaster Recovery

The variable conditions listed below can present useful opportunities to be grasped, while others may place severe limits on organizations responsible for managing the effectiveness of recovery activities. But what is clear is that these complex variables need to be addressed rather than pushed aside, or worse, ignored. They pose demands for effective leadership and coordination that will become a major influence on recovery management and recovery effectiveness.

Government facilities and machinery are themselves often casualties of a disaster, especially if there has been limited anticipation or preparedness for potential disaster events. Key staff may have been killed or are distraught over their own losses; offices and equipment are frequently destroyed or become inaccessible. Routine government services may be unable to function and throughout an extended recovery period there may even be a significant interruption in revenue flows.

An experienced commentator and evaluator of several disaster recovery operations has drawn the conclusion that many of the recommendations made by disaster and risk management specialists community include long lists of things that governments are supposed to do better. However, it may be necessary to lower such expectations in order to make do with less local government intervention after a disaster if one considers the possible problems facing depleted local governments:

"A major part of the civil service may have perished in the disaster (as in Aceh, Indonesia) or due to pre-existing factors (such as HIV/AIDS in parts of Africa). Rebuilding human resources may take years. International agencies may have 'poached' the best and brightest from the public sector, and may have gutted local society as well… Many street-level bureaucrats may simply have their hands full rubber-stamping construction plans, greeting visiting delegations and trying to patch up their own homes after the disaster. Hurricane Katrina [in the USA] resulted in mass public sector lay-offs due to shortfalls in local tax revenues. A pragmatic disaster

risk reduction agenda needs to include an understanding of these limits and their implications for what can actually be done …" [18]

As these issues are multifaceted, they require a variety of approaches. Four can be singled out for specific attention:

- The first is to anticipate the implications of diminished governmental capabilities at the time of a disaster, as for example in strengthening existing facilities or otherwise ensuring the readiness of alternate physical and material resources. Any prior disaster risk assessment is likely to reveal some crucial facilities located in potentially inaccessible areas.
- The previous identification and preparedness, or readiness of key technical or specialist groups need to understand their respective roles in relation to the wider recover context. In this respect, a commonly accepted voluntary code of practice or agreed recovery standards can greatly reduce the likelihood of unnecessarily competitive practices or divergent efforts.
- It is critical to appreciate that the *normal* work done by *regular* officials is a vital component of disaster recovery. In the long run, their practiced abilities and local knowledge may be of greater tactical value than that of externally driven programme staff.. Unfortunately local officials and technical officers are often sidelined by major external specialist disaster management or military squads.
- There is a vital need to include damage to governmental facilities and operational capacities in any damage and needs assessment following a disaster. It is equally important to look beyond the immediate emergency relief requirements, and consider the longer termed implications for recovery, such as in the requirements for waste removal (an extraordinary demand initially overlooked in Aceh, Indonesia), or the requirements for locally available building materials (without creating inflationary market prices or total depletion of local natural resources).

---

18 Christopolos (2006)

D. Dilemmas of Reconstruction

One of the most complex tasks facing recovery managers is to determine and then implement the most appropriate ways to reconstruct buildings and infrastructure. There are several important elements which have to be weighed in terms of both the wider political contexts and operational requirements, as well as the expectations and preferences of the people most affected. Reconstruction therefore poses dilemmas and raises demanding questions for officials. These may include the relative trade-offs of seeking to rebuilding more quickly against allowing for more deliberate involvement of popular participation, dialogue and debate of rebuilding features. This relates to more fundamental issues in the recovery planning as for example as to whether emphasis should be given to satisfying short-term basic reconstruction needs or rather to focus on addressing long-term needs that may provide a better measure of risk reduction.

There are complicated choices to be made concerning the relative merits of seeking to engage the eventual beneficiaries of the recovery process in being responsible for rebuilding their own houses with technical guidance and improved building plans, or whether external expertise or professional building contractors should be engaged to do the work on a larger scale and with the possible economic benefits of commercial efficiencies. Finally, a question that arises in the early stages of almost every recovery programme is whether reconstruction and the wider aspects of community rehabilitation should be conducted in the same, original, disaster-prone location, or whether the population should be encouraged or required to relocate to a new and possibly less vulnerable location.

None of these questions have easy answers, and much depends on the relative strength and breadth of views that are held by those government officials ultimately responsible for directing and overseeing a successful recovery process, as compared to the views

and expectations of the local people themselves who will finally determine by their acceptance or rejection any official decisions that are made.
The following example of reconstruction of two villages by different means following the 2001 earthquake in Gujarat, India presents some of the dilemmas that can arise in recovery approaches that place seeming efficiency against satisfaction and eventual utility.[19]

The 2001 earthquake in Gujarat, India caused severe damage in 490 towns and 8000 villages. The government instituted a village adoption programme by which NGOs and other organizations assumed a responsibility for the reconstruction of villages. Households were offered a choice of two approaches: one was to be "owner-driven" in which grants were provided so that owners or occupants could manage own reconstruction, and the other was characterized as being "donor-driven". Through this latter alternative, an NGO or other designated organization would rebuild the homes

The village of Adhoi had 3000 households of prosperous farmers and traders and lost 354 residents in the earthquake. The government of the neighbouring state of Maharashtra offered to rebuild the new Adhoi by working through the Gujarat Earthquake Rehabilitation Project. They proposed to provide free dwellings located in a new location three kilometers from the original site. Two thousand households accepted this offer, with the houses rebuilt by contractors to a design approved by the Indian Institute of Technology and provided by an NGO based in the nearby district headquarters town of Latur. The rebuilt village was laid out on a grid plan.

After about five years, the relocated village of Adhoi is fully occupied, but is unpopular with its residents because of apparent lack of basic amenities such as shops. While these may develop in the course of time, there is the question of what has impeded the local people themselves from starting up the businesses, or whether an overall lack of participation

---

19 As related in Sanderson and Sharma (2007)

in the donor-driven settlement may have contributed to the lack of identification and resulting investment or engagement by the residents.

By contrast in the village of Vondh where 400 of its 9000 inhabitants perished in the earthquake a different procedure was pursued. As in Adhoi, the reconstruction was adopted by the government of Maharashtra programme, however Christian Aid, an international NGO based in the United Kingdom provided £772,000 for the reconstruction of 848 houses. Half of the 1700 village households accepted the offer of new homes on a relocated site about four kilometers away. The remaining residents opted to rebuild their own homes on their previous site.

Although half of the original population of Vondh owns new houses on the relocated site many of them have chosen not to live in them. By January 2007, the reconstructed village of Vondh was virtually deserted apart from a few migrant workers who originated elsewhere. The houses were locked, with some being used only to store animal fodder. The remainder have rather taken pride in rebuilding their own homes in the original site.

There are various reasons why new Vondh became deserted, but they included local concerns about the length of time to rebuild the houses - even though the reconstruction was completed within about 18 months after the earthquake. Although a local newspaper suggested that the rejection of the new homes was due to a "lack of initiative on the part of the authorities to persuade the residents to occupy the new houses on the relocated site", a number of residents themselves cited a more influential cultural reason for rejecting the new locations was that the original Vondh site was the location of their ancestors.

Additional speculation suggests that the discontent in Adhoi and the rejection of the new Vondh may be due in part to the desire for rapid reconstruction by the governmental authority. This may be a consequence of inadequate consultation with the residents concerning the crucial rebuilding decisions and the various incentives or impediments associated with either donor or user-driven reconstruction

approaches. Donor-driven approaches where contractors rebuild a community may be more efficient than user-driven options, but they make a minimal contribution to the social and economic development of communities .Providing new houses at no cost to the occupants may facilitate the rehabilitation process in the short term, even as it also suggests that people do not value something they have not themselves partially invested in. In any event, the construction of 848 dwellings that remain unoccupied represents a serious and avoidable waste of resources.

Another dilemma for reconstruction authorities concerns the stages of shelter leading to permanent reconstruction. Experience demonstrates that it is important to avoid the costly and almost always unsatisfactory interim process of building temporary dwellings that become "permanent by default." While they are more demanding of recovery authorities and established bureaucracies, there are other alternate strategies that can be employed. Well conceived recovery programmes guided by public dialogue can plan to extend the installation of more viable, and locally suited, immediate post-disaster shelter. Otherwise measures can be taken to accelerate the construction of permanent residential buildings. Such solutions can only be accomplished though with extensive and well-considered previous planning and the prior determination of adequate designs and effective reconstruction procedures, compete with contingent resource arrangements.

Building houses and restoring shattered infrastructure is the primary requirement and the most demanding in financial terms in disaster recovery operations. Therefore, it is essential to devise ways to reduce the financial burden and maximize the involvement of the surviving communities in managing their own recovery. There are significant advantages in adopting a user-driven approach to rebuilding. Relocation is rarely a viable policy option. One way to save resources is to invest in measures that can extend the life of initial forms of shelter in their various forms and to accelerate the building of permanent dwellings.

The Evolution of Disaster Recovery Organizations in Colombia (1985-2006)[20]

Experience has shown in many countries the importance of having a well-structured national system to manage risks and disasters in their various dimensions and stages, from prevention and mitigation, to response and reconstruction. Although such systems exist in many countries, in real life national government or other actors often ignore established systems when under social and political pressures and create parallel structures and processes. This produces a growing institutional vulnerability. The evolution of successive disaster recovery structures can be seen in the response to three different disasters in Colombia over the space of 11 years.

Eleven days after the volcanic eruption of Nevado del Ruiz in November, 1985, the national government of Colombia created the RESURGIR Corporation, attached to the Office of the Presidency of the Republic. It was given an autonomous function to be responsible for coordinating all reconstruction activities, including the handling of international assistance and the additional resources that the government would allocate for the recovery process. Subsequently, with the intention of accelerating activities, RESURGIR was provided with direct authority to execute projects. By March 1986, RESURGIR finished formulating a programme for the recovery and reactivation of the zones affected by the volcanic activity of Nevado del Ruiz.

This programme was oriented towards the full recovery of the people affected, the social, economic and material reconstruction and rehabilitation of the communities. This implied the economic and social development of the areas affected, and also included future disaster prevention efforts. Much of the programme was executed within about four years, with the participation of many national and international entities; of which the latter contributed almost 12 per cent of the Corporation's total investment. The relocation of the surviving populations outside the risk area was one of the programme's many achievements. The creation of the National Disaster Prevention and Response System was another important result, as for the first time it enabled the definition of state policies with respect to risk reduction , with the added support of UNDP.

Three days after the Tierradentro earthquake in Paez in1994, the national government declared a social, economic and ecological emergency situation. It then created the Nasa Kiwe Corporation to formulate and execute a general reconstruction and sustainable development plan for the affected area. This organization also was tasked with coordinating and preparing recovery plans and serving as a link between the affected communities and the government authorities.

Its strategy was basically concerned with relocating the community at risk, arranging support for productive projects, and providing the population with necessary service infrastructure. Prior to implementation, a zonification study for land use was conducted. Much of the planned programme has been accomplished, but as some investments are still being made in the area, the corporation remains active.

An earthquake in the important coffee growing region of the country in 1999 led to the creation of a new Disaster Recovery Organization (FOREC). This was a coordination agency with all of the reconstruction work undertaken by 31 national NGOs, appointed by the national government. Most of these were from

20 Wilches-Chaux (2006 d) , in International Recovery Platform Database

outside the affected region. Three years later the organization was dissolved. One success of this arrangement was the speed of physical reconstruction, although this occurred at the expense of a failure of the programme to accommodate local institutional processes and community actors. This negative aspect adversely affected the continuity and sustainability of the process.

Implications for Organizing Recovery

- A progressive decentralized system for disaster recovery was eventually established with involvement of government, NGOs, the private sector and local communities. This system has been copied in other Latin American countries although the resulting levels of implementation have varied widely from being effective in some areas to non-existent in others.
- There can be a value in creating a distinctive recovery organization to satisfy local cultural needs as happened following the Tierradentro earthquake of 1994. The Nasa Kiwe Corporation was an organization formed outside the national system primarily because most of the affected communities were Indian communities, with cultural and ethnic requirements that could be addressed more effectively through locally specific accommodations.
- Governments can benefit by special efforts to transfer the experiences following one disaster in managing subsequent disasters. After the Popayan earthquake (1983) the recovery organization was able to evolve into a permanent environmental body. However a similar benefit of continuity and institutionalized capabilities was not capiatalized upon following the Armero volcanic mudslide (1985) as the recovery organization of the day was considered only as an ad hoc body and dissolved at the conclusion of the rehabilitation work.

Organizational Patterns of Disaster Recovery Management in India: following earthquakes in Latur, Maharashtra (1993) and Gujarat (2001)[21]

A comparison of the recovery strategies associated with two earthquakes in India provides useful lessons. Following the earthquake that rocked the city of Latur, in the Indian State of Maharashtra in September 1993, the State Government established the Maharashtra Emergency Rehabilitation Programme (MEERP). It was composed at a high level of political responsibility, reporting to the Chief Minister and the Chief Secretary of the Government. This was instrumental in its rapid completion of the earthquake rehabilitation project.

However, after the project's completion, MEERP was disbanded and a new disaster management center was created in an existing department of relief and rehabilitation. Although MEERP developed many disaster mitigation plans for districts, including one for Mumbai city, the valuable lessons that had been learned in disaster mitigation were not institutionalized. Hence, when Mumbai was severely flooded in 2005 the levels of preparedness and response had not benefited from the previous lessons of MEERP.

By contrast, when an earthquake hit Gujarat State in 2001, the Gujarat State Disaster Management Authority (GSDMA) was highly effective in the recovery phase. Reasons for GDMSA's success included that it was managed by senior state government officials. It was linked to line departments and had an independent financial and executive authority to disburse funds. This provided a level of authority to review progress, as well as to insist on corrective action based on field assessments. It was also empowered to use the existing field agencies of the State Government to implement programmes, such as by working through the district authorities (collectorates) and district councils, as well as the various line departments of public works, education, health and water supply. The GDMSA continued after the closure of the Gujarat recovery project and became the permanent state disaster prevention and management organization. This helped to ensure that lessons from previous disasters were able to be built into Gujarat's State Disaster Management Plans.[22]

Implications for Organizing Recovery

- Many of the lessons of the earthquake rehabilitation, including the use of disaster management plans developed for the districts, were neither institutionalized nor followed through without specific encouragement or incentives for them to be realized.
- Despite effective rehabilitation activities in Latur because MEERP focused on the rapid completion of a World Bank funded project, there was a lack of a risk reduction focus. With the focus on rapid recovery, no efforts were made to institutionalize disaster risk reduction issues at the state level administration.
- The value of establishing a secure administrative base was demonstrated in Gujarat where GSDMA was a highly effective recovery organization.

---

21 Gupta et al. (2002), with additional evidence provided by Praveen Pardeshi and Anil Sinha (2006) in International Recovery Platform Database.
22 Gupta et al (2002), ISDR (2006) p.96

Organization of Disaster Recovery Management in Sri Lanka: Following the Indian Ocean tsunami (2004-05)[23]

Despite a variety of previous disaster management authorities and a persistent reliance on dated civil protection arrangements in Sri Lanka, there was no legal and institutional framework before the tsunami able to respond to a disaster of such magnitude. However, shortly after the high level of loss and devastation shocked the society, the Sri Lanka Parliament initiated a Parliamentary Select Committee consisting of all political parties to update and expand the country's capacities for disaster response and recovery. The Committee proposed 13 important recommendations, including the establishment of a coastal buffer zone to mitigate the future consequences of a tsunami. The most crucial recommendations of the committee were to provide a legal basis and institutional arrangements for recovery initiatives through the. endorsement of a new Disaster Management Act. It was composed with a holistic approach to disaster management and streamlined the actions of the Disaster Management Council of Sri Lanka.

The Disaster Management Act also facilitated development of a ten year plan for disaster management and human rights and the creation of a national policy on disaster management and recovery. Under this legal and institutional framework the Government has also introduced:

- The National Emergency Response Plan and the National Disaster Management Plan.
- A National Operation Center, which operates 24 hours every day and is linked to emergency services, both domestically and internationally.
- Multi-hazard and tsunami-specific early warning centers have been established supported by the UNESCO and IOC initiatives to install the Indian Ocean Tsunami Early Warning Facility.
- A National Data Collection Research Analysis Center linked to disaster management stakeholders.
- Disaster management functions have been decentralized to local authorities, NGOs and local elements of civil society, along with a capacity building exercise.
- Volunteerism in disaster management has been promoted involving both private and public interests.

One of the important initiatives of Sri Lankan government has been its efforts to mainstream disaster reduction and recovery activities. In this respect it has worked to strengthen the administrative system by providing training and facilities for local administrative officers and other key local people so that they could respond effectively in future disaster situations.

Implications for Organizing Recovery

- Although decentralization is an operational attribute, consideration of wider policy issues, especially involving international support for recovery may require other forms of association and contact. It is useful to be aware of such dilemmas or at least multiple requirements as the following evaluation comment states:
- The Government of Sri Lanka's coordination of the tsunami was highly centralized. Yet, in the early phase of the emergency, local initiative and adaptation was crucial. This dilemma created an

23 Samarasinghe, (2007) , in International Recovery Platform Database

environment where the international community was somewhat constrained in dealing with local government because decisions on resource allocation were constantly referred upwards." [24]

- The lack of an effective disaster preparedness system at the national level seriously impedes any recovery process. It becomes exceedingly difficult to craft a policy, and organize many different interests and needed capabilities in the midst of the often overwhelming social, political and public pressures driving urgent recovery expectations.
- To the extent possible, it is very important for previously trained and operationally experienced personnel to be placed in key decision-making roles within any newly-formed task forces. Informed policies and decisive actions are crucial to setting a successful recovery process into motion, especially in the earliest stages of planning. By contrast, any absence of a capable command and control structure at district and local levels can severely limit the crucial aspects of implementation.

24 Tsunami Evaluation Coalition (2006)

Organization of Disaster Recovery Management in Indonesia: Following the Indian Ocean tsunami (2004-2005)[25]

The Government of Indonesia developed a three-pronged strategy and a master plan for relief and recovery following the Indian Ocean tsunami. First, it reviewed the previous expected functions and re-engaged the management abilities of a long-established Agency for National Coordination of Disaster Management (BAKORNAS), in order to address the specific challenges of the tsunami's aftermath. This body was responsible for managing and coordinating responses to the disaster.

A few months later, in April 2005, the Government established a ministerial level Rehabilitation and Reconstruction Agency (BRR) to provide leadership for the longer-term recovery process. As a central government authority, the BRR agency was charged with the task of reconstruction in the regions of Aceh and Nias, working together with local government authorities and civil society. The Chairman of BRR holds ministerial status in the central government, but with a specific legal mandate that cuts across all implementational sectors. The organization started with 14 staff but grew over a year to about 150. The initial approach to its work was organized along sectoral lines, although the relative focus of attention varied about every three months according to the developing needs. By April 2006 the agency had almost 400 staff and planned to reorganize their work on a regional basis.

The third element of the strategy was a policy-driven commitment to ensure that local communities take a leading role in planning their own recovery. This decision recognized the understanding that even though participatory approaches would be slower than authoritative, officially driven or "top-down" models of implementation, they would be more effective over the long-term and more firmly rooted in community ownership.

One of its main roles was to develop a series of standard operating procedures to provide coordination and quality control among the many participating collaborators. These included United Nations programmes and agencies, bilateral donors and the many other international organizations, and national NGOs.

Although it took some months before BRR was fully established and operational, within 18 months after the tsunami, its leadership in the overall recovery process was apparent. This was validated by the broad support it received from assisting bodies to undertake the following primary responsibilities:

- To coordinate all rehabilitation and reconstruction efforts by the central government, local governments and other concerned agencies.
- To coordinate all projects undertaken by international assistance and NGOs that were not within the government budget.
- To execute the implementation of officially budgeted projects, whether they were financed by the government or external donor support.

One commentator noted of these multiple benefits, "The new organization was needed simply because of the immense volume of work to be undertaken and it was clear that existing organizations would have had difficulties in handling this work due to their capacities and competence. As well as the physical reconstruction, the most important issues are also bureaucratic reforms (towards good and clean government) and revitalization of the economies of Aceh and Nias."[26]

---

25 Purwanto (2006) , in International Recovery Platform Database
26 Purwanto (2006) , in International Recovery Platform Database

An additional benefit of this methodical and unified approach to creating a newly independent and credible organization for regional recovery, based in Banda Aceh and involving local people, was that BRR has contributed significantly to the overall peace process in the country.[27]

By April 2006, the National Director of BRR recognized a pair of weaknesses in BRR. The limited duration of its mandate of only four years is seen as a weakness, since more time will be needed to meet all of its expected tasks. Not unsurprisingly, as occurs elsewhere, there also were growing local political pressures that could interfere with its primary accomplishments. In this instance, this has assumed the form of pressure to hire local personnel despite possibly limited levels of competence. This concern was compounded by the need for carefully balanced access to opportunities and representative benefits among the whole population. This was an important issue as the area affected by the tsunami was also recovering from long term conflict and political animosities that were perceived as increasing social and economic inequities previously.

There were other problems in the Aceh experience that could serve as cautionary lessons elsewhere. One was the difficulties experienced in handling the transition from relief operations to the more extended and complex requirements of recovery. This was not a smooth and seamless process as it was marked by delays in policy decisions, finalization of budgeted financial allocations and the release of funds to the field agencies. There has also been criticism concerning the restoration of infrastructure which failed to progress in pace with housing reconstruction, which by and large has been considered to be successful. BRR has since broadened the scope of its recovery efforts to embrace infrastructure and livelihoods, even as longer term infrastructure needs and local capacity building will necessarily extend to subsequent years.

Implications for Organizing Recovery

- The recognized value of local involvement in planning and decision-making was put into practice, with policy insistence that communities take the lead in their own recovery. Despite its being associated with more deliberate progress, this educates the public in the process, importantly contributing to longer term ownership and sustainability.
- There is considerable value in a recovery organization developing a series of standard operating procedures to provide coordination and quality control. This provides an acknowledged basis of authority, sets standards and therefore provides a basis for coordinating the actions of many different actors.
- The transition from relief operations to the management of extended recovery needs to be anticipated and managed knowledgably if continuity is to be maintained. The pacing of the overall recovery process is important, as well as the recognized value of "shifting gears" at different stages of need, and in considering the changing needs over time, of different primary implementing partners in the various phases of recovery following a disaster. As the process of recovery is highly dynamic, previously determined or otherwise limiting time durations may compromise complete, fully participative or disaster resistant, recovery actions.
- A well-conceived and widely supported disaster recovery organization can produce vital 'side benefits' in advancing favourable governance practice, building community trust, and in reconciling previously divergent issues within a community. To be successful in these endeavours though, the recovery management organization needs to be professional in its abilities, transparent and open in its actions, and characterized by the highest levels of public integrity.

27 UNDP (2006)

Organization of Disaster Reconstruction Rehabilitation Authority in Pakistan: Following the Himalayan earthquake (2005)

Following the example of the Indonesian Rehabilitation and Reconstruction Agency in Aceh (BRR) and (RADA) of Sri Lanka, the government of Pakistan has established an Earthquake Reconstruction Rehabilitation Authority in 2006 to facilitate the recovery process from the earthquake. It is responsible for planning, approving, coordination and facilitating the implementation of field recovery operations along with monitoring and the evaluation of progress.

To bridge and coordinate the transition from relief to reconstruction, Pakistan's Early Recovery Plan was organized to encompass a range of activities that will draw on the strengths and resilience of local communities over a one year period. It provides major policy direction along with guidance for some specific actions, such as emphasis for owner- driven reconstruction using a seismic resistant building code. About 650 mobile teams have been organized to provide construction guidance, with housing subsidies being paid in tranches depending on satisfactory compliance of recovery principles. The housing grant programme has been praised by the World Bank and other international agencies. Town planning has been instituted to study issues such as relocating cities situated on fault line, even as this remains an uncertain strategy to pursue given strongly held social implications. More typical professional techniques such as those of micro-zonation, the use of seismic surveys and fault line mapping have applied more widely than had been the case before. As these expanded commitments are being made on the ground as part of the recovery process, parallel efforts are working to ensure that on-going monitoring and evaluation can contribute to improved areas of transparency, and most importantly, impact.

Implications for Organizing Recovery

- A well-conceived and integrated recovery programme can address disaster risk reduction in a manner that equally advances basic development objectives.
- As recovery is a systematic process rather than a collection of discreet and unconnected project activities, multiple recovery activities should be planned with the maximum opportunity to supplement and provide mutual technical and operational support to other disaster reduction measures.

F. Models for the Management of Recovery

Given the various conditions that arise in recovery as suggested by some of the preceding examples, both the specific circumstances of a disaster and the related requirements of national government structures and local social or cultural characteristics will influence thinking about the most effective management models. It is clear that there are unlikely to be any universal models for disaster recovery, so the best that should be sought is guidance about the various attributes or limitations of different approaches to organize management structures for recovery programmes.

Three facts are often overlooked in the urgency "to do something" immediately following a disaster. The first is that recovery processes are extremely complex and therefore need to be carefully considered, planned and orchestrated. Secondly, there is a considerable body of existing experience that may be called upon through both knowing organizations, and a wide range of professional disciplines. Officials often under-estimate the value of locally available knowledge and professional expertise which exists within disaster-affected countries, or alternately which can be accessed in neighbouring countries through the assistance of sympathetic international agencies, NGOs and private sector interests. Third, a crucial success factor in any recovery programme is how effectively the many different sets of organizational relationships are able to be coordinated and managed. These include the dynamics between national and local officials, as well as the respective roles and operational relationships between international or external organizations involved in the recovery process with those of local or domestic capabilities.

These viewpoints underline the importance of deliberate and comprehensive reflection of the various dimensions of recovery processes which span assessment, planning, coordination, implementation, and monitoring/evaluation functions. Each of these responsibilities needs to be managed with approaches that are able to take account of related social, economic, cultural, and political implications. While urgency is essential in providing emergency services

and meeting critical human needs immediately after a disaster happens, speed may not necessarily be the primary criteria when one strives to rebuild a more stable and sustainable future. Government officials therefore can benefit from recognizing that there are many possibilities that can be pursued, and the experience to make informed decisions is a highly valued professional ability.

Four generic organizational models for managing recovery programmes are briefly described below to illustrate their respective qualities. While they vary in approach and administrative arrangements, they all share a few key principles. Given the over-riding national impact and therefore importance of a disaster, the political authority vested in the recovery process should be associated with or derived from the highest levels of governing authority. This should apply even if the disaster affects only a portion of the geographical area of the state or a portion of the population.

All efforts should be employed to develop a universal commitment to restoring, and indeed ideally improving, the personal well-being, livelihood security, physical safety, and environmental stewardship on which a vital and resilient community must depend. Whichever management model may be adopted, there does need to be a methodical process, initiated and sustained throughout the completion of its objectives. Human, technical, material and financial resources need to be assured both to initiate and to implement the recovery strategy through to its conclusion.

Promises are notoriously threatening political instruments, and can easily become deadly in terms of public aspirations or wider community expectations. For this reason, any viable recovery management strategy needs to consider and include substantive opportunities for the continuous participation of the affected people in the planning, decision-making and implementation of recovery activities. As emphasized earlier in this report, successful recovery is really defined by physical infrastructure that is rebuilt with resilience, and socio-economic conditions reflect improved risk reduction considerations.

Five examples of organizational models for the management of disaster recovery follow.

1. No existing prior management structure for disaster recovery.

   This is not as unusual as it may seem, as there are circumstances in which the primary and immediate pressures of emergency response can forestall earlier consideration of managing recovery activities. This tendency may be prevalent within a country, either because of a poorly developed disaster preparedness and management capability, the previous existence of few emergency situations in recent history, or be the costly result from divisive or unreconciled questions of various governmental authority or jurisdiction . Alternately there may be the unexamined assumption that the "disaster emergency services", howsoever they may be defined or professionally equipped are "naturally" suited to attend to responsibilities of managing the recovery process. This has seldom proven to be the case, and is even more rare for such a management structure to conduct a successful recovery programme. Should such an obvious gap exist in the analysis of any country's disaster and risk management capabilities, an "early recovery" strategy can be a useful and motivating initiative.

2. Work within existing governmental structures.

   Considering the relative scale of a disaster, governments may seek to organize a recovery strategy by using the normal line ministries and related service departments or agencies of government without any significant organizational changes. Mozambique applied this combined management and operational model in the recovery process following the floods of 2000 and 2001. This structure may be appropriate where there has been significant prior experience of recovery management, or where there are strong disaster management systems in place. Its success is very much dependent upon there being a high level of

preliminary planning or well-practiced administrative and operational procedures. Arrangements equally need to be in place to ensure additional capacity in government departments to cope with the increased demands, which may stretch over a considerable time period.

3. Form a new recovery task force or "special" commission.

   A tendency which frequently occurs as an "initial idea" is for a government to form an ad-hoc task force or special government commission to manage the recovery process. Occasionally, multiple or separate ad hoc task forces or commissions are called for simultaneously by different branches of government. When an ad hoc commission is more thoroughly considered or initiated to manage the recovery process, it is typically composed of designated representatives from existing ministries or government agencies led by a senior government official. This pattern is often followed at first, but its inherent capabilities can be overwhelmed by the scale and complexity of the task that it is called upon to manage. In such a situation, the task force or commission may evolve into a modified form or new organization, reconfigured to address evident problems that have emerged.

   This model was used following the Mexico City earthquake in 1985. The President of Mexico created two emergency commissions that were not part of the existing National Emergency Plan. One commission was designated to address issues at the national level of responsibilities while the other could concentrate on the specific requirements in the city itself. Multiple task forces were created after the Baguio earthquake in the Philippines in 1989, when the Office of the President, the Parliament, the Armed Services, and the National Disaster Management Agency all sought to act "urgently and decisively". Two years later, following the volcanic eruption of Mount Pinatubo in the Philippines an initial task force dedicated to

coordinating the more immediate emergency responsibilities, evolved into a Mount Pinatubo Rehabilitation Commission to manage the ongoing disaster consequences over a longer time period following the eruption as well as into the recovery process.

More recently, a task force was the initial approach adopted in Sri Lanka following the tsunami, but experienced some difficulties in being able to take timely decisions at some distance from the local level of activities.

4. Create a new recovery organization.

    Creating a new, purpose-designed management organization within government is an easily identified, but not uncomplicated, option. In extraordinary circumstances there can be a rationale for such a new organization for the following reasons:
    • To cope with the magnitude of resources being allocated, and managed, especially in cases that require the careful and complex administration of international grants and loans.
    • To balance, and manage effectively the multiple and often unprecedented demands that cross various sectoral, ministerial and jurisdictional interests.
    • Much of the work associated with recovery is additional to the existing workload of government departments, also bearing in mind the continuing responsibilities of government in other areas of the country that may not have been directly affected by the disaster.
    • In disaster-affected countries with already fragile governments or a turbulent society, a degree of unified continuity is essential if any extent of recovery is to succeed. Purpose-designed organizations dedicated to the recovery tasks that may invite non-partisan commitment can serve a wider cause by firmly establishing a basis for disaster and risk management, through recovery practice.

If such a distinctive management organization is considered to be appropriate, then it should be placed at the apex of political power and authority, as within the Office of the Prime Minister, or President, but with the maintenance of key and senior-level linkages to all of the needed implementation ministries. This may be preferable to locating the authority within an individual ministry as the work of recovery can greatly benefit greatly from the broad perspectives of the central authority, especially in the early stages of recovery. Such a body may be established with legislative authority, and the expression of either priority or limited responsibilities.. It also may be given a specific target date to complete the recovery programme, although some of the previous examples suggest that such a pre-determined expectation may be unwise and be better served during the course of on-going monitoring and evaluation recommendations.

Experience also suggests that the vital coordination of line ministries in recovery planning and management is more likely to be effective when it is under an over-arching authority, rather than extending from within a specific ministry or department. While operational capacities remain within the various line ministries, it is important to emphasize that key officials and politicians concerned with the recovery need to be drawn from existing line ministries. This is crucial to avoid potential conflicts, duplication or inappropriate sectoral competition for resources.

A dedicated disaster management organization has to cope with a "scaling-up" to cope with the expansion of resource flows and the workload. This process requires the prioritization of tasks. Within the organization new mechanisms will be needed and new resources will be required needed in order to make things happen. Both the financial implications of creating a new organization, as well as longer term political concerns figure prominently as potential drawbacks. There can also be numerous other

measures to get "quickly right" in such an organization as to relative size, scope, political prerogatives, balance between central, provincial/state, and local authorities in decision-making, etc. There is a limited margin for error in both the political arena and the public eye, not least in striking an effective balance between policy expediency and practical implementation that is able to meet the fundamental recovery needs of the people concerned.

The approach can work well, and there are favourable lessons as can be obtained from the recovery process following the earthquake in Gujarat, India in 2001. Variations of this model also were applied and adjusted to local needs and conditions in both Sri Lanka and Indonesia during their respective tsunami recovery operations. As Bill Clinton commented when he was the UN Secretary General's Special Representative for Tsunami-Affected Countries;

"But let's start with the good news. I applaud Indonesia and Sri Lanka's decisions to create dedicated recovery institutions, empowered to make the right decisions, and the leaders selected are able and off to a good start. They have direct reporting lines to their chief executives - which is good. And we can already see the benefits in some of these areas." [28]

5. Create a new recovery organization that evolves into a permanent body

New organizations charged with managing recovery can evolve into a permanent body with reconfigured disaster and risk management or other related preparedness functions. This is what transpired following the Popayan earthquake in Colombia in 1983. Ten years later, the organization responsible for managing the recovery process evolved into a regional environmental body. Where this happens a well-conceived or broadly defined national disaster management authority may be lacking. This form of evolution may not always be suited to the particular needs of a country, but it does offer some insight into the dynamic management and organizational needs of disaster and risk management in various country circumstances.

---

28 Clinton (2006))

VI
Conclusions

This report provides a review of only some of the elements and challenges that make disaster recovery such a complex undertaking, influenced to a great degree by its many dimensions and the multiple interests involved. These characteristics underline the importance of informed and balanced judgments that need to be taken in the planning and execution of the many related activities, spread across a variety of different authorities, agencies and organizations. Such a sustained enterprise can only be successful to the extent that it is sufficiently anticipated, understood, planned and ultimately managed.

The foundation for any serious commitment to disaster recovery rests first of all on the principle that successful disaster recovery can only be defined in terms that are able to provide improved, more resilient, and less vulnerable conditions of future disaster risks for people, their livelihoods, and a community's collective assets and infrastructure.

Successful recovery is grounded in official government acceptance and adoption in practice of a comprehensive strategy for disaster and risk management. It is validated by official integrity and assured professional standards of accomplishment. It is in this respect that the Hyogo Framework provides an opportunity for direction and guidance, able to be tailored to the specific needs and priorities determined by any country.

A commitment to recovery equally needs to be supported fully by the understanding of the population that investments in disaster reduction contribute to people's future well-being and safety. Effective recovery capabilities need to be an integral part of established disaster preparedness, management and response systems and like these other aspects of disaster reduction need to be developed and sustained long before the time of their actual implementation.

The roots of recovery are to be found in the risk profile of a country or a community. The strength and potential effectiveness of recovery is then determined by the prior and sustained commitments to the management and coordinated application of skills to be drawn from many associated collaborators - in government, from private sector and commercial interests, through civil society and people themselves. National platforms or other similar forms of extended and multi-disciplinary approaches to disaster risk reduction in a society can encourage the wide range of participation that recovery requires.

Fortunately considerable experience and knowledge exists from previous disaster situations, although many more efforts are needed to benefit from the experience of others in similar circumstances. As one collaborator of the International Recovery Platform commented,[29] "All over the Latin American and Caribbean region, [and in fact throughout the world], there are hundreds of examples of how disaster risk management and local sustainable development is possible and is being achieved.[30] But despite their abundance and demonstrated success, all those experiences continue to be marginal when it comes to others learning from them, elsewhere.

While the occurrence of disasters does provide a commonly-asserted "window of opportunity" when governments, politicians, technical specialists and the public alike share a common motivation to lessen previously existing conditions of vulnerability, much preliminary understanding and activity is needed. Experience has repeatedly shown that simply the existence of formal recovery policies is not enough by themselves. Essential practices and institutionalized capacities need to be reflected through on-going activities embedded, or mainstreamed, into national disaster and development planning processes and programmes.

---

29 Pardeshi (2007b), in International Recovery Platform Database
30 See, for example, Zilbert Soto and Wilches-Chaux (2005)

Examples cited in this report demonstrate that while there are few absolute 'solutions' to recovery needs and problems that can be transferred in their entirety to other national conditions or disaster circumstances, when taken together they provide a variety of approaches and relative considerations which can contribute to success in specific contexts. The appropriateness and utility of a specific technique or recovery procedure is largely to be found within the dedicated engagement of government structures, technical and professional expertise, and public need conditioned by the sensitivities, and values, of the particular society.

One of the most critical lessons is that while there is nearly a universal sense that "people will not be moved" in the sense of being relocated successfully after a disaster, there is the equally strong undercurrent that "people must become engaged" in the decisions and activities that most determine their own recovery from a disaster. For that to happen,

government officials, as well as local leaders have a responsibility to anticipate and manage successful disaster recovery.

It is the International Recovery Platform's aim to function as an international source of knowledge and to act to address the gaps and constraints currently experienced in the contexts of recovery. The examples and experiences displayed here are only an indication of the rich insight available, but which can be much more widely capitalized upon. They also demonstrate a wealth of resources which are sometimes too easily overlooked when survivors, their industriousness and their own aspirations are rather considered diminished "victims" of a disaster.

The experiences which advance successful disaster recovery must ultimately become accepted as people's own - in government, in practice and in the communities where people live and work.

VII
References

ADPC (2006), *Critical Guidelines Community-Based Disaster Risk Management: Guidelines for Good Practice in Community-Based Disaster Risk Management – Process Indicators*, pp. 28-55 (Consultants Murshed, Z., and Davis, I., Bangkok: Asian Disaster Preparedness Centre (ADPC), available online from: www.adpc.net.

Alexander, D. (2002), *Principles of Emergency Planning and Management*, Harpenden: Terra (see Chapter 7 'Reconstruction Planning', pp. 269-86).

ALNAP (2004), *Key Messages from ALNAP's Review of Humanitarian Action in 2004*, p.4, "Learning, Accountability, Performance, in Humanitarian Action" (London:ODI), www.alnap.org

Anderson, M. B., and Woodrow, P. J (1998), *Rising from the Ashes – Development Strategies in Times of Disaster*, London: IT Publications.

ADB, OECD and Transparency International (2005) *Curbing Corruption in Tsunami Relief Operations* Manila: Asian Development Bank (ADP) , Organisation for Economic Co-operation and Development (OECD) and Transparency International p.101

Boen, T. *Observations on relocation planning following the 1992 Flores Tsunami*, APEC Workshop, Taiwan, China. 2001.

Christoplos, I. (2006),'The elusive 'window of opportunity' for risk reduction in post-disaster recovery', Briefing Paper for Session 3 ProVention Consortium Forum 2006, *Strengthening Global Collaboration in Disaster Risk Reduction*, p. 4, Bangkok, February 2006.

Clinton, B. (2006) *Lessons for a Safer Future: Drawing on the experience of thew Indian Ocean tsunami disaster . Eleven key actions for building nations' and communities' resilience to disasters*. New York and Geneva: ISDR

Coppola, D. (2007), *Introduction to Disaster Management*, Chapter 7, 'Recovery', pp 295-335 (Amsterdam: Butterworth-Heinemann (Elsevier)).

Davis, I. (1978), *Shelter after Disaster* (Oxford Polytechnic Press: Oxford), pp. 1-10.

Davis, I. (2002),"Earthquake Mitigation", Keynote Presentation, 12th European Conference on Earthquake Engineering, Barbican Conference Centre, London.

Good Humanitarian Donorship (2003) *'Principles and Good Practice of Humanitarian Donorship'* 17 June http://www.reliefweb.int/ghd/a%2023%20Principles %20EN- GHD19.10.04%20 RED.doc

Gupta, L. C., Gupta, M. C., Sinha, A. and Sharma, V. K. (2002), *Gujarat Earthquake, 26 January 2001* (New Delhi: National Centre for Disaster Management, Indian Institute of Public Administration).

Hyogo Framework for Action 2005-2015 (2005), (Geneva: ISDR), www.unisdr.org/wcdr

IFRCS (1995) The Code of Conduct for the International Red Cross and Red Crescent Movement and NGOs in disaster relief (1995), Item 8 (Geneva: IFRCS).

ILO (2005) *'Working out of Disaster; Improving Employment and Livelihood in countries affected by the Tsunami* Bangkok: International Labour Office (ILO)

ILO (2007) 'After the Tsunami: In the wake of the disaster, ILO helps rebuild lives andlivelihoods' article on-line http://www.ilo.org/public/english/bureau/inf/magazine/53/tsunami.htm

IRP (2006), International Recovery Platform Database information concerning collected case studies. www.recoveryplatform.org

Kolb, D., and Fry, R. (1975), "Towards an Applied Theory of Experimental Learning", in Cooper, C. L., ed., *Theories of Group Processes* London: Wiley.

Lewis, S. (2005), *Race against Time* (Toronto: Anasi Press), pp. 125-6.

Powell, M. (1999), *Information Management for Development Organisations*, 2nd edn (Oxford: Oxfam).

Sanderson, D. and Sharma, A. (2007) "Winners and Losers from the 2001 Gujarat earthquake" (unpublished paper available from dsanderson@brookes.ac.uk and anshu@seedsindia.org

Sayagues, M. (2001), "Trapped in the Gap, post-landslide Venezuela', p. 101, *World Disasters Report 2001* (Geneva: FRC/RC (International Federation of Red Cross and Red Crescent Societies).

Schartz, D. (1997) *Delta- The perils and politics of water in South and Southeast Asia* Berlin: Scalo Zurich p.32

Scheper, E. et al (2006) Impact of the tsunami response on local and national capacities Tsunami Evaluation Coalition, (cited p.21) of Telford,J and Cosgrave, J (2007) The international humanitarian system and the 2004 Indian Ocean earthquake and tsunamis *Disasters* Vol. 31 No.1 March 2007

Spangle, W. (1991), *Rebuilding after Earthquakes, Lessons from Planners* (Portola Valley, Calif.: William Spangle and Associates).

Telford, J and Cosgrave, J (2007) The international humanitarian system and the 2004 Indian Ocean earthquake and tsunamis *Disasters* Vol. 31 No.1 March 2007 pp 1-28

Tierney, K. (2006) Social Inequality, Hazards and Disasters p.121 in Daniels, R., Kettl, D. and Kunreuther, H. (2006) *On Risk and Disaster – Lessons from Hurricane Katrina* Philadelphia: University of Pennsylvania Press.

Tsunami Evaluation Coalition (2006), *Coordination of International Humanitarian
Assistance in Tsunami-Affected Countries: Evaluation, Findings, Sri Lanka* (London: ALNAP Secretariat).

UNDP (2006), *Local Governance in Tsunami Recovery: Lessons Learned and
Emerging Principles* (Bangkok: UNDP Regional Centre in Bangkok Serving Asia and Pacific UNDP).

Wilches-Chaux, G. (1995), "The SENA self-help reconstruction programme following the 1983 Popayan earthquake, Colombia – a governmental vocational training centre approach', pp. 69-76, in Aysan, Y., Clayton, A., Cory, A., Davis, I. and Sanderson, D., *Developing Building Improvements for Safety Programmes: Guidelines for organizing safe building improvement programmes in disaster-prone areas* (London: Intermediate Technology Publications).

Williams, S. (2006), "A community crippled", *Telegraph Magazine,* 7 October 2006, p.32.

Wisner, B., Blaikie, P., Cannon, T. and Davis, I. (2004) *At Risk: Natural hazards, people's vulnerability and disasters*, London: Routledge (2nd ed.) First three (theoretical) chapters are available at: http://unisdr.org/eng/library/lib-select-literature.htm

Zilbert Soto, L.and Wilches-Chaux, G. (2005), "Gestión Local del Riesgo y preparativos de desastres en la región andina – Lecciones aprendidas y sistematización de buenas prácticas". LA RED / UNDP / DIPECHO.

ISDR

United Nations
International Strategy for Disaster Reduction

International Recovery Platform

IRP Steering Committee members (in alphabetical order):

Asian Disaster Reduction Center (ADRC), Hyogo Prefecture, International Federation of Red Cross and Red Crescent Societies (IFRC), International Labour Organization (ILO), ISDR secretariat (UN/ISDR), Italy (Ministry of Foreign Affairs), Japan (Cabinet Office and Ministry of Foreign Affairs), Switzerland (Swiss Development Cooperation), United Nations Development Programme (UNDP), United Nations Habitat Programme (UN-Habitat), United Nations Office for the Coordination of Humanitarian Affairs (UN/OCHA) and World Bank.