

5 Perception of Risk and Hazards

- 5.1 The nature and extensiveness of preparedness and mitigation measures are to a large extent dependent upon how people and governments perceive risks and hazards. The field of hazard perception has received some attention in the past, especially among North American geographers. However, much scope for further research exists. Indeed, much of the research that has been undertaken has focused upon how people perceive the physical characteristics of hazards rather than on their perception of how hazards affect them or their communities directly and indirectly, or how they perceive risk in the context of the options available to them. Moreover, perception studies have tended to focus at the individual or household level. Much less work has been undertaken on perception at the community, and even less at the gender, local, ethnic, regional and national government levels. There are also differences in perception manifesting themselves at cultural and social levels that need to be better understood.
- 5.2 Hazard and risk perception will usually differ within any given population. The rich will perceive risks differently from the poor; peasants' perceptions will vary from those held by local-level administrators or landlords; urban perceptions may vary from perceptions held in rural areas; national government officials will perceive things differently from local community leaders or even local government officials. The significance of such differing perceptions of hazards and risks is that *information flows will be constrained or distorted as they pass through various perception filters*; attempts to articulate concerns will not be heard or be discounted; false senses of security may be engendered; and disaster management strategies may address the wrong issues or set inappropriate priorities. Moreover, perceptions among a given population may also change with time; people are much more sensitized to risks at times immediately following a disaster, and it is at such times that they are much more receptive to undertaking preparedness and mitigation measures. This is true both for affected populations, for administrators and government officials, and for the donor community.

5.3 *A consequent research need is, therefore, the better understanding of what influences peoples' perceptions of risk. Such research must address the perceptions of risk at:*

- the household level - where, presumably, such factors as economic well-being, education levels, previous experience with the hazard, access to institutionalized support networks (including hazard insurance), etc., will play a major role;*
- the community level - where the extent to which the community has previously been required to respond to needs created by hazards will significantly determine its collective attitude to danger and degree of preparedness for hazard events;*
- government/administrative level - where the quality of local and regional officials, as well as their motives (political or economic) for addressing hazard risks, and their willingness to listen and react to local populations' fears and concerns, are key variables. All too often, the articulation of concerns by vulnerable populations to higher authorities is impeded by disinterest, conflicting interests, or indifference by local authorities;*
- cultural and social levels - where such variables as gender differences, folk beliefs, religious influences or pure fatalistic views play a major role in how people interpret and react to indicators of risk.*

5.4 It has sometimes been argued that populations living in high risk areas evolve a distinctive hazard-adaptive sub-culture. Their daily routines, economic systems, social and/or political organizations, housing and systems of land-tenure are all adapted to their perceptions of risk. For example, it is frequently suggested that the perpetual threat of flood and river channel shifting within the floodplains of Bangladesh's major river systems has created a 'charland sub-culture' which is quite distinctive to that prevailing on the mainland, having adopted a unique set of adaptive coping strategies to the perennial flood threat.³ Similar sub-cultures may be found to exist alongside active volcanoes or in severe drought regions. *An indepth study by anthropologists of such hazard-adapted sub-cultures, therefore, could identify more clearly the relationships between how people*

³ Examples from Bangladesh are cited throughout this report because a) the country exemplifies forcefully so many of the issues raised in the report, and b) the writer was part of a team which recently completed a study which addressed many of these issues in Bangladesh.

perceive risk and how they develop traditional and local-level mitigation strategies.

- 5.5 Disaster management strategies which have been undertaken in developing countries have invariably been capital intensive structural measures such as flood protection embankments or cyclone shelters. These may or may not deliver the level of protection which their planners intended to provide. On the other hand, they may also create false senses of security among populations at risk, resulting in their not taking traditional preparedness and hazard mitigation strategies as seriously as they might otherwise have done. Indeed, their perceptions of risk might be so radically altered so that all traditional mitigation strategies are abandoned. It has also been argued by some researchers that a similar false sense of security can be engendered by the perception that relief aid, both governmental and privately sponsored, will be readily and universally available following a disaster and thus the need to prepare for a potential disaster or to take mitigating actions is unnecessary. *It is therefore recommended that the question of how disaster preparedness and mitigating interventions on the one hand, and the generally widespread availability of relief aid following a disaster on the other hand, create among populations at risk false perceptions of relative safety or of being adequately cared for if and when hazards do strike.*

6 Preparedness

- 6.1 Long-term residents in high hazard-risk areas invariably develop sets of time-tested coping strategies. Indeed, in many cases they become variously attuned to 'living with hazards'. Traditional systems of early-warning may have evolved, economic systems and methods of house construction may include measures of preparedness for hazard occurrence, and strategies for mutual assistance in times of disaster, and even for subsequent recovery, may also be in place. Such traditional coping mechanisms have led some observers to propose that distinct hazard-adapted sub-cultures are in place in many high-risk areas. All too often, however, such traditional methods of preparedness and of response are overlooked or even ignored by authorities when imposing from above their 'modern', 'systematic' or 'technological' interventions. Indeed, as was alluded to in the previous section, such imposed interventions *may have the effect of reducing peoples' reliance upon traditional methods and creating a false senses of security among them.*
- 6.2 In their attempts to develop and implement technologically sophisticated methods of hazard preparedness and mitigation, bureaucrats, technocrats and donors often appear oblivious of prevailing traditional responses and coping strategies. Admittedly, in some cases traditional strategies may no longer be as effective as they once were; population pressures and the concomitant increased competition for access to resources, for example, may have negated their usefulness or have made people less able, or less willing, to help each other in times of need, as was perhaps the case in the past. However, it is suggested here that there remains much to be learned from detailed research on how societies, communities and households living in high-risk areas have traditionally responded to perpetually 'living with hazards'. *Thus, the questions which need to be better understood through systematic research include:*
- *what kind of signals did people traditionally depend upon for warning of the possible onset of a hazard event? (for example, studies have drawn attention to the way in which animal behaviour has been used in some societies as relatively reliable predictors of seismic activity, or how the flowering of certain trees has been used as a gauge of forthcoming rains);*

- *how housing and other structures were developed to withstand the impacts of hazards or how materials were chosen on the basis of their salvageability for re-use following a hazard event;*
- *how traditional economic systems incorporated the periodic need for emergency resource requirements after a hazard event;*
- *how traditional systems of resource entitlement facilitate or hinder the recovery from disaster events;*
- *the extended family and community systems of mutual assistance following a disaster, including the types of assistance provided and the expected repayments or other forms of reciprocity; and*
- *the manner in which land tenure systems may have facilitated living in environments with high hazard risks.*

Such research is needed, ideally on a global comparative basis, to generate a better awareness of how communities traditionally coped with hazards without, or with minimal dependence upon external assistance. It would allow disaster managers and planners to better incorporate traditional systems of preparedness into contemporary plans and activities. Indeed, it might reduce the need to impose methods from 'above' by providing assistance and incentives to strengthen traditional systems; people respond much more favourably to an intervention which they see as being their own than to ones which have been externally introduced.

- 6.3 It may also be argued that by focusing upon traditional response mechanisms, or by attempting to integrate new preparedness strategies with traditional ones, greater levels of risk-awareness creation can be introduced and more effective methods of preparedness and mitigation be promoted. For example, in some coastal areas of Bangladesh, a time-tested method of preparing for recovery from sea-water flooding caused by storm surges is to bury containers of drinking water; given such an accepted strategy, it is not a major conceptual hurdle to introduce to the same population the addition of a three to four foot collar to their tube-well (a simple, low-cost procedure) in order to protect it from salt water spoilage at the time of a storm surge.
- 6.4 An indispensable component of any preparedness system is a reliable and effective *early-warning system*. While a few hazards are of the catastrophic type which give little or no warning, in most cases some degree of early-warning, or of gauging an increasing level of risk, is usually possible. Technology has, moreover, greatly

facilitated the timing and the reliability of such early-warnings. The problem, however, is often one of the effectiveness and speediness with which early-warnings are disseminated and the seriousness with which they are received. In high-risk areas, for example, warnings may be frequent but will often *not* result in an actual hazard occurrence. Hence, a degree of complacency towards responding to warnings may set in, or people may simply delay their response until the actual onset of the hazard by which time it may be too late to take mitigating actions. The fear often held by officials that false alarms may constrain future response to warnings may be offset by simple explanations of the reasons why there was a false alarm. Indeed, lack of information is often one of the primary reasons for failure to respond to early warnings; people are not generally overwhelmed with 'technical' information which will help them cope with a hazard event. Moreover, in the absence of reliable and trusted information, rumors may prevail and produce counter-productive results.

- 6.5 Another dimension of response to early-warnings relates to the extent to which there are options available to potentially affected populations. It is not of much use to advise people to flee an impending hazard if they have nowhere to go or no means of going. Alternatively, they may perceive the risk of leaving, in terms of losing control of their meagre resources, as being far more of a devastating risk than the risk of the impending hazard - this may especially be the case where warnings are frequent but do not necessarily lead to an actual hazard event. Again, coastal Bangladesh illustrates this argument very well; cyclone warnings are multi-annual events but only result periodically in severe cyclones actually touching land in forewarned areas. Hence, few ever flee at the first warning - which may be two to three days before the expected arrival of a cyclone and in plenty of time to take mitigating actions. Rather, they wait until more definitive signs manifest themselves, at which point it may often be too late to reach safety. Moreover, leaving their homesteads entails very high economic risks; theft and looting is rampant at such times and, given the critically limited resources most coastal people have at their disposal, few are thus able, let alone willing, to forsake their households until the hazard is actually upon them. In Bangladesh there is also the added problem of where to flee since cyclone-shelters are too few and often beyond reach for much of the population at risk.

- 6.6 *It is therefore recommended that a research project be initiated which examines the economic, social and psychological underpinnings of when and how people respond to early warning systems and how such responses vary with different hazards and among populations with varying resource entitlement or outside the societal mainstream due to ethnicity, language or because of handicaps.. Such research will greatly assist the fine-tuning of many existing early warning systems and permit a re-orientation of others which may be ineffective or are not being responded to by the people they are meant to protect.*
- 6.7 *There is also a need for research on how to mobilize effective early-warning systems to remote or inaccessible areas, especially when such areas are inhabited by technologically unsophisticated populations. Using electronic media is little use in areas where people do not own radios. Even getting warnings to local officials may be a problem because of limited or unreliable communications networks. The development of informal warning systems has, therefore, a major role to play in such circumstances. Indeed, in such instances much benefit would be derived from a better understanding of how traditional early-warning systems operate. Therefore, a viable additional research undertaking would be to explore how informal warning systems can build upon such traditional warning systems so as to provide a heightened level of preparedness among remote and poorly accessed populations.*
- 6.8 *A major component of adequate disaster preparedness is the full involvement of the public at all levels of disaster planning. A highly sensitized population is much more likely to develop its own preparedness and mitigation strategies and to undertake appropriate responses to any early warnings that are given. The problem in many developing countries, however, is one of how best to involve and sensitize the public given the limited communication modes that are usually in place and, perhaps, deep-rooted inherent distrust of officials which prevails among many peasant populations.*
- 6.9 *An important research question that needs to be addressed, therefore, is that of the constraints and obstacles faced by national and local government agencies attempting to develop public awareness and preparedness programs in high-risk areas. As part of this research, the following issues should be evaluated:*

- what role does, or could, the media play in assisting with awareness creation? Does the media work for, or against, *the development of realistic perceptions of risk*? How realistically or accurately is the media informed of disaster management issues? To what extent do governments manipulate the media in order to impose their disaster management plans/activities or distort the magnitude of hazards? How free is the media of government control to report conditions which may conflict with government positions?
- what role, either positive or negative, do political parties play in disaster awareness? Is there an awareness creating role for multi-party disaster committees in high-risk areas, and, if so, how can such multi-party committees be mobilized?
- what is the appropriate role for local community leaders and how can they be more effectively mobilized to heighten awareness within their community? To what extent can local community leaders serve as the frontline agents capable of blending traditional coping measures with externally introduced and more technologically advanced measures?
- to what degree do NGOs, especially expatriate ones who may not enjoy the unequivocal support of government, have the freedom to publicize needs in times of emergencies or contradict government positions? (It can be argued that vulnerability is greatly increased under conditions where NGOs, or the media, are denied freedom of expressing any concerns which may contradict government policy or positions);
- what are the most appropriate and cost-effective technologies available to third world areas for use in promoting disaster awareness?
- what is the role and/or risk of private enterprise developing and/or promoting disaster mitigation strategies? To what extent does private enterprise in the developing world have the capacity and resources to develop and promote disaster mitigation strategies?
- what is the existing and potential role of the education system in creating awareness?

6.10 *This latter point is, essentially, a major research agenda in itself.* The value and cost-effectiveness of using the various tiers of an education system to promote political goals has long been recognized and implemented by ideologues and politicians. Some governments have also effectively mobilized the education system to promote other social goals, such as in Thailand for example, where basic

concepts of population education are introduced as early as kindergarten and have resulted in a near-universal knowledge and acceptance among younger generations of the two-child family concept. Based upon such experiences, there is clearly much scope for developing within school systems heightened levels of awareness of disaster risks and preparedness and mitigation concepts. *It is therefore recommended that a research project be developed to:*

- *assess ways and means of integrating disaster-awareness and basic concepts of disaster preparedness and mitigation into all levels of school curricula,*
- *assess how school systems can also be used to promote awareness, preparedness and mitigation concepts to local adult populations, and*
- *assess ways in which school systems can be integrated with extension programming for local community leaders and tertiary-level government administrators.*

A closely related issue is that of developing more effective education channels, especially at secondary and post-secondary education levels, *that target the media to provide it with a more informed information base on risk assessment and realistic preparedness, mitigation and response strategies.*

- 6.11 Many of the above proposals on awareness-creation and promotion of preparedness strategies depend to a large extent upon there being appropriate institutions, whether governmental, non-governmental, educational or political, that can be mobilized for disaster management initiatives. However, the appropriate institutions are often not in place or are not mandated to deal with such initiatives. Hence, in many cases there is a need to build new institutions which will take specific responsibility for disaster management. Alternatively, the existing institutions which are charged with responsibility for disaster management may be highly inappropriate ones (such as the military), or ones which have little or no experience (or even interest) in the tasks assigned. Thus, *it is necessary to address more fully the question of institution building; it is necessary to identify the most appropriate institutions which should be established to effectively promote disaster preparedness and mitigation.*
- 6.11 While a later section of this research agenda will focus specifically on the role and needs of women in disaster management, it should be emphasized here that women must be brought into all phases of disaster preparation, mitigation and awareness creation. Many types of hazard events impact particularly severely upon women

and especially upon women-headed households. Indeed, women are invariably in the majority among the most vulnerable populations at risk in times of hazards. Consequently, *any research projects dealing with ways of heightening awareness of disaster preparedness must give high priority to incorporating the special needs of women.*

7 Mitigation

- 7.1 The concept of 'mitigation', as widely used in disaster studies, is not always a clear one. To some it implies all risk-reduction and preparedness actions taken prior to an onset of a hazard event. To others, it has a much more specific meaning, such as activities undertaken specifically to lessen the human and socio-economic impact of a hazard; engineers and technocrats, on the other hand, may use the term to refer solely to technological and/or structural interventions aimed at containing the physical impacts of particular hazards. Consequently, at the outset of this discussion of mitigation, it is worth drawing attention to the need that there be a more universally acceptable definition of the term 'mitigation', and especially one that more readily and clearly distinguishes between 'preparedness' and 'mitigation'.
- 7.2 The level of attention to disaster mitigation by governments, donors, other agencies, and local populations is invariably related to prevailing or perceived levels of risk. People residing in high risk areas, or areas with frequent recurring hazards, will usually evolve at their local-level sets of time-tested strategies which aim at reducing the impacts of hazard events. At the same time, governments may also introduce measures to curb the impacts or severity of potential disasters. All too often, however, such local-level strategies on the one hand and government mitigation initiatives on the other hand remain unrelated to each other, or indeed, may even be in conflict with one another. Such variances in approach and/or priorities often reflects differences in the scale of activities; governments usually adopt 'structural' solutions requiring heavy investments, while at the local-level 'non-structural' measures which draw only upon locally available resources normally predominate. Once more, Bangladesh can be used as a good illustration of this dichotomous approach to disaster mitigation. Until recently, there was little or no questioning within government circles about the desirability and necessity of large-scale, highly capital intensive structural flood mitigation works, i.e., embankments and dykes. Disaster mitigation was planned and implemented by engineers and consequently only 'engineering' solutions were contemplated. Indeed, after the disastrous 1988 flood, international donors poured into Bangladesh to reinforce traditional government strategies by proposing massive additional and extremely costly flood protection works - the so-called 'Flood Action

Plan'. In contrast, *only limited attention has been given to the array of existing and potential non-structural options, including floodplain zoning, which could help people live and cope more effectively with floods. Research on how to develop and introduce low-cost non-structural mitigation strategies is thus urgently needed to complement traditional emphases on structural mitigation measures.*

- 7.3 Closely related to this question of implementing structural versus non-structural measures is that of reconciling the potential costs of losses resulting from relatively rare extreme events with the exceedingly high investment costs of implementing structural mitigation measures. This problem becomes particularly important for very poor countries. For example, *a very worthwhile research project, and some might argue an absolutely critical project, would be an assessment of the economic and social benefits which might accrue to rural Bangladesh were the resources currently slated for investment under the 'Flood Action Plan' applied instead to basic rural development initiatives* (which would almost certainly also include a number of non-structural flood-hazard mitigation measures).
- 7.4 The broader issue of how or when to balance alternative mitigation measures, and especially how to reconcile known costs of implementing structural mitigation measures with unknown costs of a likely hazard occurrence, is one that is regularly faced in most disaster-prone areas. Research into this issue, of necessity, is essentially area-specific (such as the Bangladesh case suggested in 7.3 above) rather than a theme where any universally applicable theory can be developed. However, in looking at alternate sets of mitigation measures it is useful to distinguish between:
- measures which lead to the prevention of disasters,
 - measures which lessen the impact of disasters,
 - measures which cause populations to avoid areas that are hazard-prone, and
 - measures which lead to a change in social and/or economic practices.
- 7.5 Clearly, the number of hazards, especially natural hazards, which can be *prevented* by human interventions is limited and the costs of such interventions are invariably extremely high. For example, flood protection works which aim at providing 'total protection' (a questionable concept in itself) can usually be only undertaken by agencies able to call on massive funding amortized over several generations, such as has been the Dutch experience where investments made in the early part of this

century are still being amortized. Moreover, even in such circumstances, the question remains of what level of risk is to be protected against; given the exponential increases in costs, should such interventions protect against 100-year extreme floods or 400-year extreme floods?

- 7.6 Much more scope in disaster mitigation lies in the area of modifying or lessening the impacts of hazards and thereby reducing the severity of potential disasters. The options in this area are many and are being widely addressed, ranging from structural/engineering measures which lessen damage caused by hazards, to more reliable early-warning systems, to effective recovery systems such as universally accessible and affordable insurance schemes. *Continuing research into all three of these areas is highly desirable, especially with regard to the latter; to date there has been relatively little emphasis placed upon the role or potential (given prevailing levels of economic marginalization of population) of hazard insurance in disaster-prone areas in the developing world.*
- 7.7 A major way to mitigate the impact of a hazard is to reduce the level of exposure of population. This can be achieved by zoning and/or building ordinances which control where people live or work or by setting minimum standards for structures they build. While in theory such interventions seem logical and realistic, in practice they are far from universally in place. Even in highly developed countries such as the US, populations remain vulnerable to disasters through lack of effective control of where and how they build; residential estates continue to straddle the San Andreas Fault and beach-front housing is still being built along hurricane-prone Atlantic shorelines. In the developing world, however, such zoning practices are even more difficult to implement, even if the political will were there, because of a combination of acute population pressure, resource scarcity, abject poverty and bureaucratic corruption. In Bangladesh, for example, because of ever-increasing land scarcity, people have little or no option but to eke out an existence on cyclone-prone off-shore islands or flood-prone mid-channel chars. Elsewhere, people have no choice but to reside on landslide-prone slopes, in areas subject to frequent earthquakes or volcanic eruptions, or along low-lying tropical storm-prone coastlines. Notwithstanding these human constraints, there is clearly much scope for such non-structural mitigation measures; many governments in the developing world have yet to recognize their role lessening the impacts of hazards through devising and implementing realistic legislation.

- 7.8 A fourth set of mitigation practises are those which focus upon changing social and economic practices. Here, the thrust is upon the introduction of new, hazard-resistant building materials or designs on the one hand, or on new agricultural practices or crops, or upon more general changes in land-use on the other hand. One of the major problems here is that of overcoming cultural barriers; rural conservatism is widespread and new mitigation measures can, therefore, only be successfully implemented if there is a parallel program of promoting heightened levels of hazard-awareness. Also, it must be recognized that in many developing countries the population is economically so marginalized as to not be in a position to adopt any hazard mitigating measures, even if the will is there; the perceived risk of a hazard may well be less than the perceived risk of adopting a change to a traditional economic practice.
- 7.9 The above points are intended to identify more specifically the principal areas where research into mitigation should focus. It is suggested here that while there clearly remains much scope for technological research into means of preventing the impacts of some hazards or of lessening the impacts of others, *there is a greater need to develop more concerted research thrusts into means of hazard avoidance through an array of legislative processes on the one hand and through changing economic and/or social practices on the other hand.* Such research should address the questions of *how mitigation needs can be translated into effective and realistic legislation and how changes in economic activity can lead to a better adjustment and response to hazards.*
- 7.10 Moreover, such research should also include in its objectives the better understanding of the balance between the economic and social costs of mitigation measures. To do this, we need to consider such questions as how social or cultural factors affect hazard agents or the perception of hazard agents. To date there has not been sufficient and detailed research on *how traditional coping strategies worked in high risk areas.* Likewise, there has not been much detailed research undertaken to assess *how traditional coping and/or mitigation measures can be augmented with low cost interventions to reduce vulnerability.* Clearly, here lies a ***very important area of research by social scientists.*** Indeed, such research can have a direct bearing upon the issue raised in 7.6 above, namely, it can explore how traditional coping measures can be incorporated into modern concepts of hazard insurance.

- 7.11 One other area of *much needed research is that of how to mitigate the psychological impacts of prolonged exposure to hazards or high risk of disaster*. The issues which need to be explored are whether such long-term exposure to high risks creates levels of resilience or generates fatalism. If the latter is the case, it may make more difficult any attempts to introduce risk mitigation strategies into an area. *Obtaining a better understanding of the underpinnings of such fatalism should, therefore, be the first step in introducing any programs to prepare for and mitigate against the impacts of disasters.*

8 Relief

- 8.1 Disaster relief is invariably reactive. A disaster or emergency occurs; immediate needs are locally assessed; an appeal for response is mobilized. The time-lag between a disaster event and the initial response is, by necessity, a brief one. Consequently, in most disaster situations there is little or no time for lengthy and detailed evaluations of injury, damage or other losses -- such detailed evaluations are usually made long after the emergency phase has passed. Moreover, the quality and timeliness of response to a disaster is a product of the level of preparedness prevailing in a state. Response capacity is also a product of the overall national development-level; it is clear that the capacity and/or the political will to prepare for disasters varies greatly from country to country. One manifestation of this is the extent to which relief flowing into a disaster area -- both from inside the country and from abroad -- succeeds in addressing the actual needs which exist. All too often, however, some of the relief which arrives at a disaster site is inappropriate, unnecessary, unsolicited or superfluous, while many critical requirements may be left totally unmet.
- 8.2 Donors' responses to disasters are likewise reactive. A disaster occurs; an appeal is received; a monetary or, more usually, an in-kind allocation is made on the basis of resources (or surpluses!) available to the donor. Even less opportunity exists for donors to undertake rapid and independent on-site evaluations of needs. Consequently, aid provided by donors, and especially in-kind aid, is often inappropriate or misdirected. A number of myths regarding needs created at times of emergency and disasters remain deeply ingrained among many governmental and non-governmental agencies. Such myths include:
- that any kind of medical assistance is welcome;
 - that any kind of international assistance will be helpful;
 - that there is always a risk of epidemics following a disaster;
 - that disasters bring out the worst in human behaviour;
 - that people always panic in emergencies;
 - that the affected population is rendered helpless by disasters;
 - that disasters are random killers;
 - that disaster victims need to be housed in temporary settlements; and

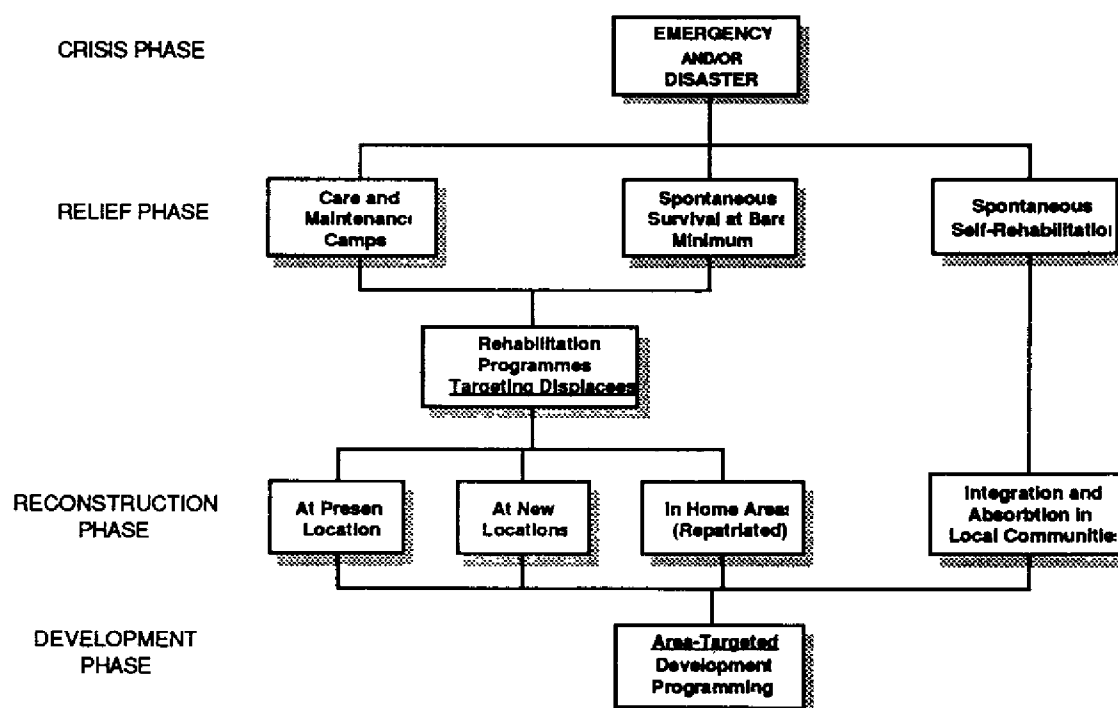
- that things will get back to normal within a relatively short time.⁴

- 8.3 While a few of the above conditions may occasionally be relevant in some disaster situations, for the most part they are distortions of the reality which normally prevail in times of disasters. Yet, these myths continue to guide and direct the policies of many of the agencies which attempt to mobilize responses following a disaster. For example, the widespread belief that any form of medical assistance is desirable resulted in such an over-supply of medical NGOs descending on the coalition-controlled area of Iraqi Kurdistan in the summer of 1991, that they were actively competing with one another to find clients to service (at one point, one village of about 5,000 people had three fully equipped medical NGOs with some 30 professional staff in place, while an Australian mobile military medical team was driving from village to village trying to find one that was not already serviced by an NGO). At the same time, urgent needs such as house reconstruction for some half million people, rehabilitation of village infrastructures and agricultural/irrigation systems, or attending to the needs of the large numbers of destitute women-headed households were hardly being addressed by any donor until several months after the refugees returned; some of these needs have yet to be effectively addressed. Only as the first signs of the impending winter began to manifest themselves was there any significant activity to provide some shelter materials for the returnees and displaced persons.
- 8.4 The above points are intended to draw attention to *the need to break new conceptual grounds regarding policy frameworks for disaster and emergency assistance* which go beyond such traditional concepts as 'any form of medical assistance is desirable', or 'tool and seed distributions will meet the basic requirements for rural rehabilitation'. ***It is therefore recommended that a concise but comprehensive set of principles and policy guidelines for disaster relief be formulated which can be universally applied to address critical needs created by any hazard.*** Moreover, such principles and policy guidelines *must not be limited to the immediate post-disaster situation but must also integrate longer-term reconstruction (and development) requirements.* The latter is particularly important for poorer developing countries where disasters are likely to severely deplete resources and leave little or nothing for longer-term reconstruction.

⁴ See Appendix 2 for a table outlining the myths and realities of disasters as recently summarized in the International Review of the Red Cross, No. 284, Sept/Oct. 1991, p.515.

Moreover, it must also be recognized that international donor interest wanes quickly following the emergency phase of a disaster (or is diverted by new disasters) and hence critical needs for reconstruction tend to be left unattended. The development of such policy guidelines may also help in reinforcing the *need for donors and NGOs to re-structure their response mechanisms* and see post-disaster relief as more than just a short-term emergency proposition. In too many cases there is a total conceptual separation between 'relief' -- the short-term emergency response handled by humanitarian agencies -- and 'development' -- the longer-term assistance mobilized through intergovernmental agreements. Medium-term post-disaster reconstruction invariably falls 'between the cracks'. In sum, donor policies must begin to address relief as but part of a continuum of assistance that progresses to rehabilitation and reconstruction and ultimately to development.

FIGURE 1
STAGES IN DISASTER RESPONSE



- 8.5 Figure 1 attempts to conceptualize the four phases in disaster response. It suggests that in the relief phase there are normally three groups of affected populations in need of assistance, namely:

- those who are being supported in 'care and maintenance settlements/camps';
- those who receive no direct assistance and attempt to survive on their own at bare minimal levels; and
- those who have the capacity and/or tenacity to immediately commence a process of self-rehabilitation.

Each of these groups require different levels and types of assistance; each faces different hurdles in their attempt to resume a normal existence. *Further research into these diverse needs and on the effectiveness of traditional donor response strategies to each of these groups is required.* Specifically, research questions to be addressed should include:

- *how effective are 'care and maintenance camps' as a means of implementing relief? Are there better alternatives?*
- *how should donors and NGOs best respond to those spontaneously surviving at bare minimum levels of existence?*
- *what induces some to begin a process of self-rehabilitation immediately following a disaster? What inputs could be provided to induce a greater proportion of affected populations to self-rehabilitate?*
- *how to design programs of assistance which minimize the development of dependency among recipients?*
- *what are the factors and/or preconditions which lead to high levels of dependency on relief assistance developing in some areas but not in others?*
- *to what extent, and in what way, can relief inputs act as a constraint or disincentive to spontaneous rehabilitation and reconstruction? and*
- *what are the impacts of non-solicited aid and how can such forms of assistance be better managed/controlled?*

- 8.6 A common concern in many areas where disaster relief is mobilized is whether all the inputs reach the targeted populations. Stories abound of aid being diverted to local merchants, misused for political purposes, or used to re-enforce local power structures. Monitoring of relief during the crisis and emergency phases of disasters is all too often minimal and ineffective and consequently some assistance is invariably re-directed from its targeted population. *It is therefore suggested that research into policies of delivering and monitoring relief assistance mechanisms be undertaken, and that such research address especially the inter-relationships between relief delivery mechanisms and the local power structures*

within which such mechanisms must operate. Specifically, such research needs to consider:

- the relationships between relief and local-level patronage;*
- who are the real beneficiaries from the distribution of relief and who loses;*
- how local politics/politicians affect or control the access to relief; and*
- the extent to which access and control of relief in turn affects policies and practices regarding future mitigation activities.*

- 8.7 The management of relief coordination and dissemination, especially when carried out by UN agencies, is often subject to much criticism from the media, from some NGOs, or from special interests groups. Inefficiency in the manner with which relief is delivered or the tardiness with which a relief operations are mobilized are common criticisms levelled at UN agencies. Comparisons with the perceived efficiency and speediness with which ICRC responds to an emergency are also often made. Some of these concerns may be well-founded; others may reflect processes which are beyond the control of the UN system. Nevertheless, it may prove beneficial to undertake *a comparative study of some recent emergencies where the UN system was subject to serious criticism in its relief operations and to objectively determine the extent to which such criticism was warranted on the one hand and where delays or perceived inefficiencies were due to such processes as donor appeal-mechanisms or constraints to relief delivery imposed by host governments on the other hand.* Such a set of critical case-studies may serve to identify ways of streamlining the overall system of relief delivery.