

CHAPTER 2: BEHAVIOR FOR CHANGE

Introduction

Disasters are events of great magnitude and concentrated impact upon a society or community that cause such severe danger and losses that the social structure and essential functions of society are critically disrupted or prevented. Viewed from this perspective, disasters are social phenomena. Hence understanding patterns of social organizations and behavior is essential in promoting positive action for planning structural upgrading (earthquakes).

and coordination systems, public awareness and community participation.



disaster-sociological definition; upgrading-social actors, capacity building

Social Actors

The efforts of major organized social actors in disaster-prone areas are at the heart of planning structural upgrading. They include:

1. People in communities and settlements;
2. Central and local authorities responsible for land use planning, local building and zoning codes, and the development of disaster management resources;
3. People in networks of organizations and those who are taking responsibility for disaster reduction;
4. Specialized agencies that observe the balance of natural conditions and human activities;
5. National monitoring institutions that assess the risks and options available to safeguard people, economies and fragile environments.

Within these social elements, the activities of the decision makers, professionals, project implementation staff, non- governmental organizations, community and voluntary organizations represent a rich spectrum of resources and functions. They have an immense potential for changing behavior to reduce the vulnerability of people, habits and economies. What is required is to profile their roles in sufficient detail to enable their effective contribution to specifically targeted disaster reduction programs.

Capacity Building

Incorporating a social perspective can effectively bring about changes in behavior to reduce the vulnerability of people and settlements. Achieving this objective requires new strategies for planning and capacity building in disaster reduction program: (1) creating enabling policy and legal frameworks, (2) institutional and human resource development, and (3) strengthening managerial

SESSION 1: DISASTER AS A SOCIAL PHENOMENON- THE SOCIAL IMPLICATIONS

Topic 1.1 : Disaster as Social Phenomenon

A sociological definition of disaster clearly depicts the inherent human dimension of the issues related to disaster. From a sociological point of view a disaster is an event, located in time and space, that produces the conditions whereby the continuity of the structure and processes of social units becomes problematic.

Disaster agents may differ as to their cause, frequency, controllability, speed of onset, length of warning, duration, scope of impact, and destructive potential. Therefore, an understanding of the victims' perspective becomes a critical consideration in loss reduction in disaster.

Sociological Aspects of Disaster

The meaning of the term disaster is associated with such descriptive terms as disaster prevention and preparedness, disaster relief and post-disaster rehabilitation. The definition used implies a particular understanding of the social interactions of a situation, and can imply a particular operational philosophy, both of which have important program implications.

From the sociological definitions of disaster one may identify two fundamental characteristics of disaster situations. First, disasters are social phenomena (rather than mere physical events) and, secondly, while the physical event may cause social disruption it is not likely to cause social disintegration. Individuals and groups within a community can be expected to continue to function after a disaster in approximately the same way they functioned prior to a disaster. This rather positive perception of social processes in emergency situations differs from what is commonly assumed to occur, and has significant program and policy implications in all aspects of disaster planning, preparedness and reconstruction.

Sociological definition helps our understanding of natural disasters. They support the view that human beings are the central consideration in disaster reduction.

- ? a. From a sociological point of view disasters are social rather than natural phenomena. Explain.

key disaster-sociological definition; disaster agents; disaster-sociological aspects;

Topic 1.2: Changing Perception About Disaster

The term 'disaster' continues to be used in a variety of ways. In general usage, 'disaster' implies a misfortune or calamity, hard luck, or anything of a ruinous or distressing nature. The different conceptions of disaster stem from different uses by users. Thus a seismologist defines a disaster in relation to tectonic movements, relief administrators in relation to relief needs and political officials in relation to political consequences. In exploring the meaning of these terms, however, it may be useful to examine the underlying concepts of the inherent social and human dimension of each disaster.

Social vs Physical

The established notions and perceptions about disaster have significantly changed since 1950 when increasing emphasis was put on social and human aspects of disaster.

Earlier perceptions were based largely on the characteristics of the physical forces and the resulting impact or damage. For example, most disaster preparedness efforts were then concerned with improving warning equipment and with scientific study of physical phenomena. With the increasing attention given to the social science study of emergency situations, the perception of 'natural disaster' has shifted from consideration of the technical aspects of the physical phenomenon as the primary focus, to a perception that the extent of deleterious effects is predominantly a social issue based on whether the people are aware of the potential threat and take the necessary actions to minimize physical destruction and social disruption. The definitions of 'disaster' have reflected this change, - with increasing attention being given to the social aspects of disaster situation.

The shift in disaster perception from a physical to a social event can lead to a better understanding of the problem. It will ultimately help in adopting effective measures for disaster reduction with a human outlook.

- ? a. What is the difference in perception between those who see disasters as physical events in their life and those who see them in social terms?

key disaster-sociological aspects.

Topic 1.3 : Generic vs Agent-specific Approach

The social implications of natural disaster require that disaster planning should be approached with a more social and human-oriented outlook. This calls for a generic rather than agent-specific approach. This is because whatever the agents of disaster (i.e. flood, drought, earthquake, cyclone, landslide, riverbank erosion etc.), some general (or universal) activities, such as warning, evacuation, sheltering, rescue, search, relief and rehabilitation have to be undertaken to face disaster. Therefore, a generic rather than an agent-specific approach to disaster planning is needed.

Reasons for Generic Approach

There are two main reasons for the shift from an agent-specific to a generic approach. One is theoretical, the other (more important) is empirical. Theoretically, there has been a shift away from a physical focus toward a more social conception of disaster. This is partly the result of recognizing that an event such as an earthquake or a chemical explosion does not automatically result in a 'disaster. That is, a natural land movement of a certain kind is an earthquake, and the transformation of an inert liquid into an expansive gas is a chemical explosion. But unless there are significant negative social consequences of some kind these happenings remain only a geophysical event or a chemical process. From this perspective, a disaster can be identified only in terms of a social occasion, by the characteristics of individuals and groups reacting to a situation. The socially oriented conception of disaster shifts the focus to the common or similar properties of the social happening and away from the physical features of natural and technological agents and their effects.

The generic approach is more relevant for disaster reduction because it emphasizes the social and human aspects of the problem. Disaster-planning that incorporates preparedness, relief and rehabilitation should not be treated as a mere physical, technical or engineering problem. It is also important that we understand the inherent short and long run implications of ways of approaching problems dealing with preparedness, responses, recovery and or mitigation.

- ? a. If disasters are not caused by physical forces but by social factors, what social action can prevent disasters from happening?

key disaster planning-agent specific; disaster planning-generic.

Topic 1.4 :Implications of Social Understanding of Disaster

The consideration of disaster as a social rather than natural phenomenon has significant implications for disaster planning and reduction. The social phenomenon brings the whole problem near to the human beings who are the real victims of disaster.

Nature of Implications

The implications for treating disaster as a social phenomenon may be briefly stated as follows. Prevention and mitigation must stress social, rather than physical solutions. Disaster planning is not primarily the search for the implementation of technological solutions. The emphasis on the social allows for the opportunity for proactive, rather than reactive strategies. Thus, it is possible to take actions prior to the appearance of the physical agent. The emphasis in planning can be on internal, rather than on external factors. The potential threat is not "out there," but resides in the "internal" flaws within the social system.

The view of disasters as social phenomena allows such happenings to be incorporated as a part of the nation's development process. In fact, what is often called the "recovery" process after a disaster is development in and of itself. That is, the recovery process is a process in which the population improves its level of adaptation to its environment and prepares for future vulnerabilities. However, the policies and programs that are likely to be formulated on the basis of the above mentioned implications will depend upon existing situations of a particular country.

We mentioned several positive implications in treating disaster as social phenomena. *Indeed this approach helps us to enhance disaster reduction with a human outlook.*

- ? a. Disaster prevention and mitigation must stress social, rather than physical solutions. The emphasis on the social allows for the opportunity for **proactive**, rather than **reactive** strategies. Discuss.
b. The "recovery" process after a disaster is development in itself. Explain.

key disaster planning-sociological approach;

Topic 1.5 : Units in Social Understanding of Disaster

Human behavioral issues in disaster reduction cannot be understood unless one identifies the social actors through which a society operates. Societies might differ in culture, values, customs and also in level of development. But the social actors i.e. people and their social configurations remain more or less the same.

Types of Unit Several core social configurations can be identified that play a crucial role in disaster reduction. These are:

Individuals;	Communities;
Small Groups;	Institutions;
Organizations;	Societies as a whole

It is necessary to consider how these configurations operate, separately and as a composite whole, what problems each is likely to face, and ways in which the contributions of each one can be supported.

Social understanding of disaster based on core social units can help us to identify the measures to face disaster.

- ? a. Are the roles of these social configurations in disaster reduction planned or spontaneous?



social actors

Topic 1.6 : Communities as collective arrangements

Communities are social arrangements or major configurations, not just geographical locations. Community and locality do often not overlap. A community can be 'imagined' ; a locality has a physical structure. Thus, in case communities coincide with localities, they are both the focus of disaster impact but more importantly the focus and location of disaster response.

Typically, communities are organized around traditional functions: (1) production-distribution-consumption, (2) religion and/or religious symbols, (3) ethnicity, (4) socialization, (5) social participation, (6) social control and (7) mutual support. These activities are organized to achieve certain outcomes. These functions are carried out by a variety of social units. Many of the organizations deal with "collective" problems, while some of them have more private goals. Too, some of these organizations have what might be called "emergency" resources. Understanding these differences among community organizations is an important beginning for disaster planning.

Disaster planning needs to utilize the work of organizations which have a community orientation and possess emergency resources. Other types of existing organizations also may be useful in developing a disaster response.



community

SESSION 2: SOURCES OF HUMAN VULNERABILITY

Topic 2.1 : Disaster Proneness and Vulnerability

An understanding of human problems and response is a sine qua non for preparing an effective disaster reduction program. Human problems and disaster responses are linked to the overall vulnerability of the people in the area, their socio-economic backgrounds, and also on the pre-existing social and cultural factors that exist in a particular society for a long time. In this context it is essential to agree and understand the distinction between 'disaster-prone' and 'vulnerable'

Disaster Prone

The term disaster-prone is most often related to the disaster agent, the hazard or the immediate cause of disaster. Disaster proneness is usually determined by the history of past events and the risks of new events in the future. A certain person, community, population or place, area or country is thus regarded as prone to one of several types of disasters which have occurred in the past under conditions which continue to exist, or to new hazards that may have been added when conditions have changed. Human settlements in a high risk area with badly constructed buildings are prone to earthquakes. Political instability may make a vast population conflict-prone. Economic recession implies proneness to economic and political collapse. Deforestation makes certain areas more flood-prone. To be prone is to be threatened.

Vulnerability

This is more related to the effects of disaster impacts and to the prevailing socio-economic conditions of the people which might be affected. It is linked to the ability to recover from a disaster. Many factors contribute to people's vulnerability. Hunger, malnutrition and poverty are some of the most prominent factors that make people vulnerable to disasters. To be vulnerable is to be weak and at the same time threatened.

There are essential distinctions between disaster-prone and vulnerability. One is related to disaster-agent, rooted in history and past events. Vulnerability is more closely linked with the people and rooted in people's ability to face disaster. These two concepts have significant implications for disaster reduction



- Which are the existing disaster agents in your community?
- Suggest links between vulnerability and economic deprivation.
- Give some examples of disaster proneness and vulnerability in your community.



vulnerability; disaster proneness.

Topic 2.2 : Human Vulnerability

If the objective of disaster reduction is to benefit people, it is essential that we understand the issues related to vulnerability. When people face a disaster, say flood or earthquake, not all are equally affected. Some people are more affected and take time to recover while others are less affected or not at all affected. Yet some other people also die because of the impact of a particular disaster agent. The inherent issue in this situation is **vulnerability**.

Impact of Vulnerability

Not all crises become disasters and not all people suffer equally from any given disaster. Why do disasters occur where and when they do, and why do they happen to some people and not to others. The answer lies in the issue of vulnerabilities. People become disaster victims because they are all vulnerable. Because people have different degrees of vulnerability, they suffer differently.

Example 1

People living in Tokyo may be considered highly prone to earthquakes but they are generally not markedly vulnerable. They live in houses or work in buildings which can often withstand even quite intensive earthquakes, they have been trained to protect themselves when a tremor is felt, and the society to which they belong has the economic capacity to absorb the effects of a destructive seismic event.

Example 2

For many people in Caracas, Lima and Managua, the situation is different. They are also prone to earthquakes, but at the same time more vulnerable. Houses and buildings are not as safe as in Tokyo, people have not received the same training in responding to earthquakes, and the societies do not have the same economic capacity to absorb the destructive effects of earthquakes.

Vulnerability is an important concept in the study of human response to disaster. The response may be different due to differences in vulnerability. A person becomes a disaster victim because he does not have the capacity to withstand it. In other words, a vulnerable person is more prone to disaster.

- ? a. Why are some countries with the same earthquake proneness more vulnerable than others?
- b. Give an explanatory example of a developed and a developing country of your choice?

key vulnerability.Japan

Topic 2.3 : Vulnerability, Defencelessness and Deprivation

The concept of vulnerability has different meanings and implications. We provide below examples of various meanings of vulnerability.

Meaning

Vulnerability refers to exposure to contingencies and stress, and difficulty in coping with them. Vulnerability has thus two sides: an external side of risks, shocks, and stress to which an individual or household is subject; and an internal side which is defencelessness, meaning a lack of means to cope without damaging loss. Loss can take many forms-becoming or being physically weaker, economically impoverished, socially dependent, humiliated or psychologically harmed.

Different Dimension

Vulnerability, indicates defencelessness, insecurity, and exposure to risk, shocks and stress. This contrast is clearer when different dimensions of deprivation are distinguished, for example, physical weakness, isolation, poverty, and powerlessness as well as vulnerability. Of these, physical weakness, isolation and poverty are quite well recognized, and many programs seek to alleviate them: powerlessness is crucial but it is rare for direct action against it to be politically acceptable. Vulnerability has remained curiously ignored in analysis and policy, perhaps because of its confusion with poverty. Yet vulnerability, and its opposite, security, stand out as recurrent concerns of poor people which professional definitions of poverty overlook.

Various meanings of vulnerability are useful in designing a program of disaster reduction. Different groups of people may perceive vulnerability differently. So it is essential therefore, to adapt a multiple strategy for disaster reduction depending upon the need of a particular situation.

- ? a. Why do you think that the poorest in a society are affected most severely by natural disasters?

key vulnerability;

Topic 2.4 : Sources of Vulnerability

The sources of vulnerability are vast and varied. There is cross-country and cross-cultural difference in vulnerability. However, in underdeveloped disaster-prone countries, poverty appears to be a contributing cause of vulnerability.

Types of Sources

Vulnerability has both environmental and social dimensions. More specifically, the sources of vulnerability may be physical, social and motivational. When cast in social terms it relates to a lack of personal or physical resources or independence of action. Chart 2.4-1 suggests the different sources of vulnerability.

The different sources of vulnerability (i.e. social, physical and motivational) requires that integrated strategies should be adopted for disaster reduction. It is true that the issue is quite complex but clear comprehension is needed.

- ?
- What is the existing knowledge about vulnerability in your community? Is there a strategy of earthquake preparedness?
 - Using the chart in your text explain the sources of vulnerabilities (i.e. physical, social and motivational).



vulnerability

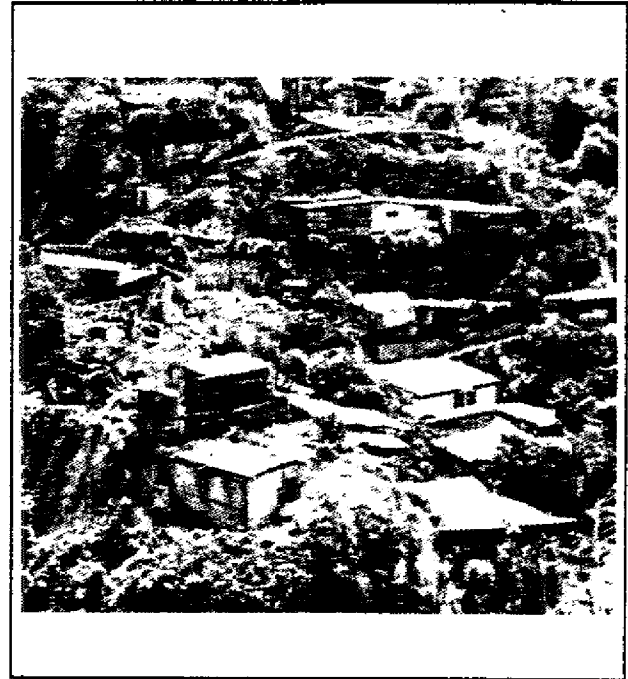


Figure 2.4-1 Squatter Housing in Guatemala, all extremely vulnerable

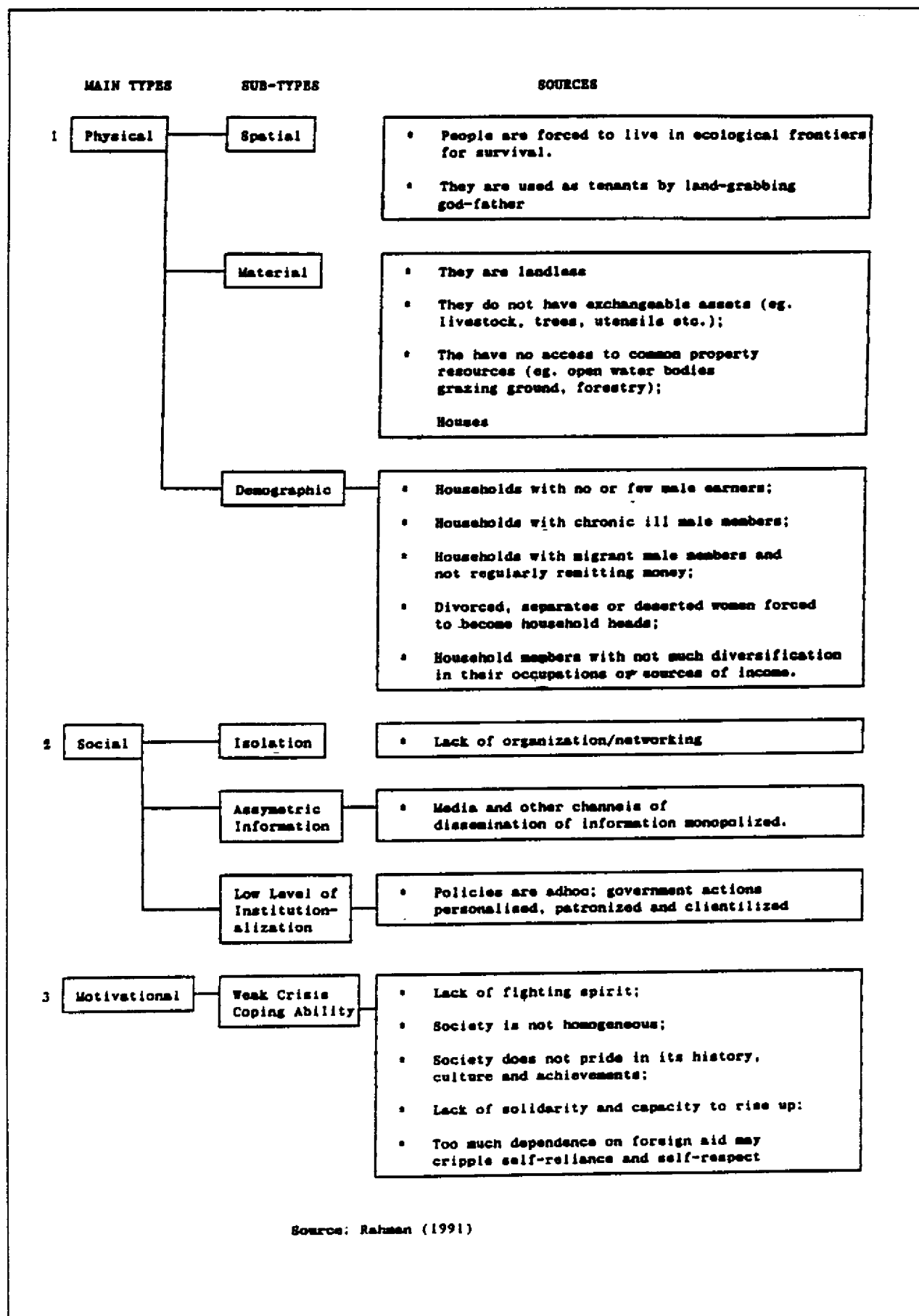


Chart 2.4-1 Sources of Vulnerabilities

Topic 2.5 : Vulnerability Across Groups

All people are not equally vulnerable. Similar events may cause different consequences in poor and rich countries. These events also differ in their impacts on various groups within a population.

Vulnerability may occur at different levels. In general terms, vulnerability might differ depending upon gender,

age, ethnic group, social class etc. We provide below a list of groups of people whose vulnerability may be different.

Due to differences in vulnerability variation in behavior might occur among different groups of people.

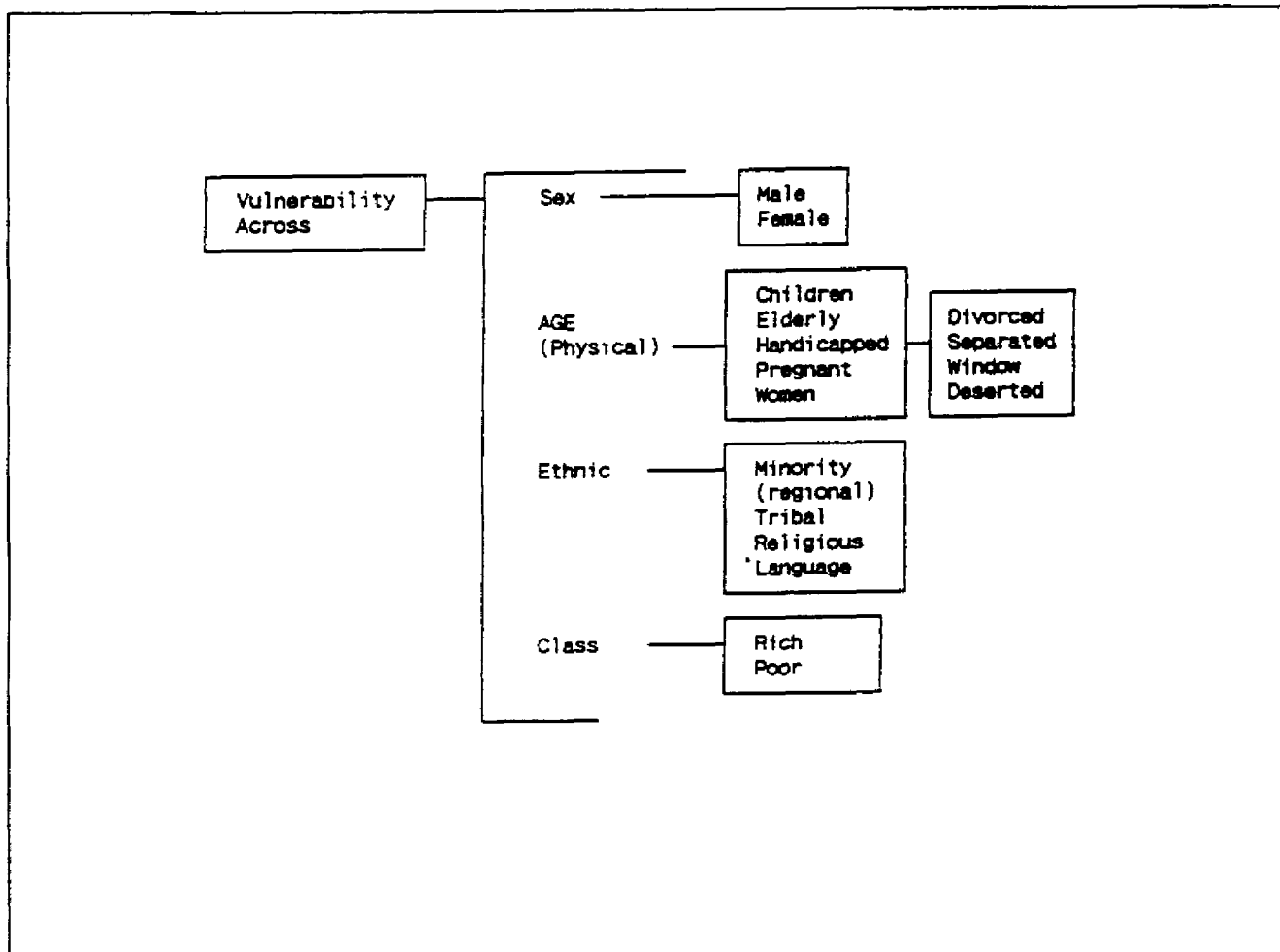


Chart 2.5-1 Variation in vulnerability

Differences in vulnerability across groups and classes lead to different coping strategies in the face of natural disaster. An understanding of the difference in coping strategy is crucial in devising a policy of disaster reduction.

The cross-country and cross-cultural difference in coping strategy is also likely to affect the disaster reduction program.

key vulnerability

Topic 2.6 : Household Vulnerability

The household is generally the basic unit of a society. Therefore, the household's ability to deal with disaster determines the ultimate capacity of people to mitigate and to reduce loss. Household ability to survive in natural disaster is different in different countries. In this consideration the level of development of a particular society is also important.

Difference in Vulnerability

The ability to survive in disaster is not the same. There are cross-country and cross-cultural differences. However, in all households certain common factors that determine household survival may be identified. We provide below a schematic presentation of different factors that affect household survival. (see chart 2.6-1). *We see that various factors determine household ability to survive. It is crucial that we identify each of these factors and also determine to what extent these factors affect survival cross-culturally.*

- ? a. Give examples of vulnerability increasing behavior in relation to earthquakes, for each of the social units mentioned in the previous section (Topic 1.5).
- b. What strategies can households use to increase their coping capacity to include more of the factors indicated in chart 2.6?
- key household(s); vulnerability; household vulnerability.

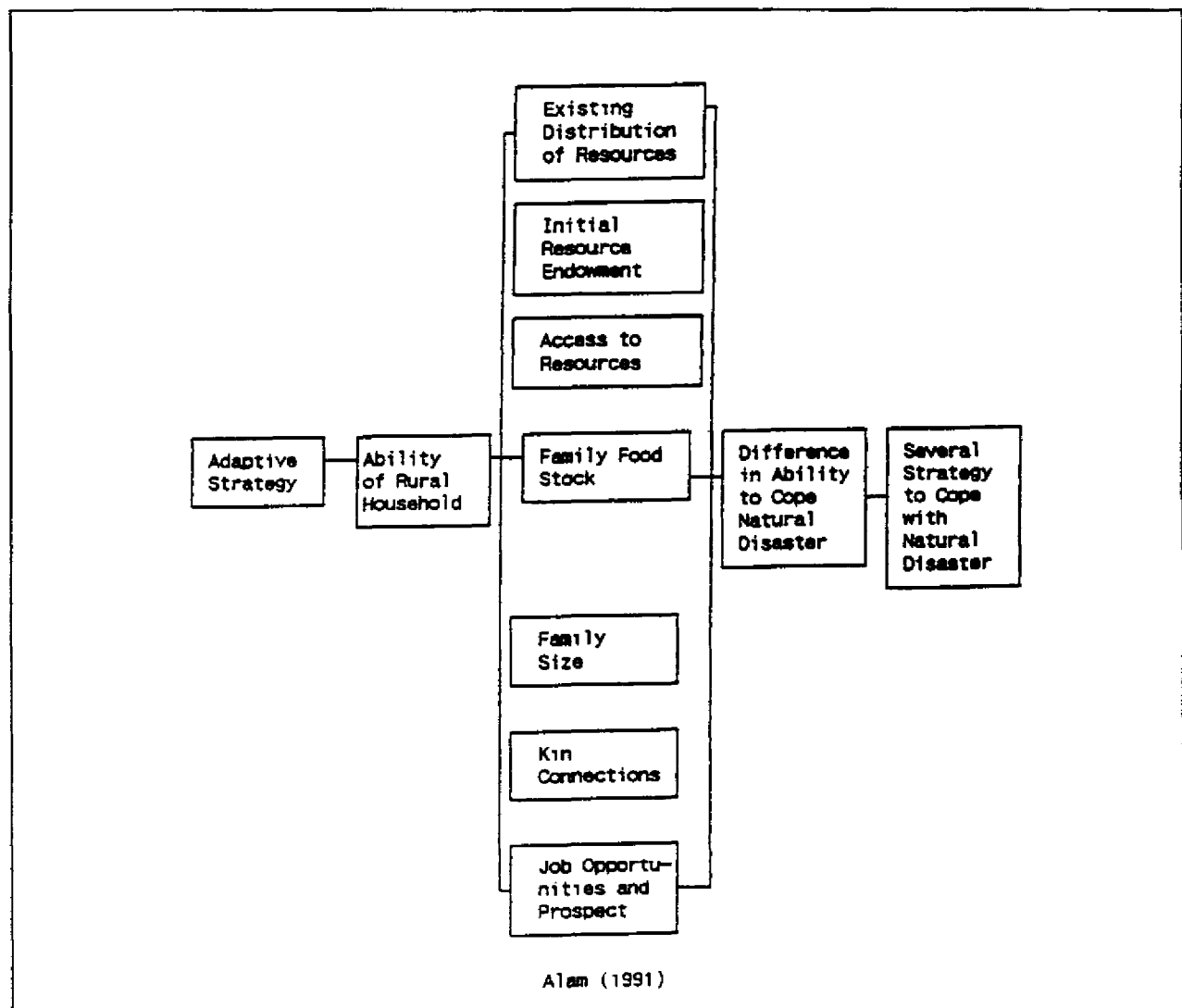


Chart 2.6-1 Household Ability to Survive in Natural Disaster

Topic 2.7 : Disaster reduction program for women

In many respects women and children are a marginalized group. Any program for disaster reduction must include these groups. Women's organizations, NGOs and relevant government departments may be involved in protection work. It is a challenge to take adequate policy measures which could cope with the intractable problems of physical and social insecurity confronting women-particularly those who are young-under conditions of disasters. In all this their own participation is the key.

Some steps for Formulating a Women's Program

Mobilization is an aim in women's programs and the issue of communications is often neglected. Women themselves are important communicators to their families. The following options can be considered essential for involving women in disaster reduction.

- 1 Creating among affected women an awareness of survival options;
- 2 Helping them in activities (such as emergency health measures) for survival and vulnerability reduction.
- 3 Identifying the needs and aspirations of women and children;
- 4 Helping them in organizing women groups to meet local needs for disaster reduction;
- 5 Utilization of women skills for disaster preparedness.

It is important that the conventional notion of women as victims of disaster be replaced by recognition of women's positive role in case of preparedness and disaster response.

In many countries women can play important roles in disaster preparedness. For example, involvement in health programs as a part of disaster preparedness can provide the context in which improvements can be made in family plans for emergencies. In addition, post disaster experience may require education in aspects of public health. The specific area of involvement is less important than underlining the critical importance of women as resources in all of the disaster phases.

In addition, in many parts of the world, women's groups can play important roles as pressure groups to encourage public officials to give more time to disaster preparedness. And of course, with attention given to disaster preparedness, women health professionals can continue to play a key role.

While women are often exceptionally vulnerable to disaster, they also constitute an important resource of

knowledge and skill which can be utilized in all disaster phases.

?

- a. Marginalized women and children are very vulnerable. What program of action would you suggest that improves their participation in disaster reduction?
- b. What can women in your community do to encourage more attention to disaster preparedness?

key

women; children; preparedness.

Topic 2.8 : Active Role of Women in Disaster Reduction

While it may be true in some instances that women, children and the elderly do suffer disproportionately, however, women also play an important role, not only in the post-disaster phase, but equally important, in the pre-disaster phase.

In most societies women are responsible for taking care of the family's basic needs, such as food and health, socialization, and having a clean environment. Caring for the home and the family extends to caring for the community.

Pre-disaster

In the pre-disaster phase, women can practice safety measures in the home; learn first aid skills; identify community resources; stock essential supplies including non-perishable foods; basic medicines; clothing; first aid supplies and participate in community disaster planning.

Post-disaster

In the immediate post-disaster phase, women may assist with search and rescue; shelter management; water and sanitary facilities; waste and sewage disposal; food safety and the identification of needs and available resources.

The important roles of women in disaster preparedness and mitigation should be properly understood and highlighted. In many traditional societies women have significant roles in the family which can be further extended in various activities in the pre- and post-disaster phases.

- ? a. Suggest a few ideas that encourages women's involvement in disaster reduction over and above the present state of affairs?

key disaster reduction-role of women; women.

Topic 2.9 : Reduction of Vulnerability of a Community Social Structure

Reduction of vulnerability of a community social structure is the most difficult among all the mitigation measures. For the most part, this can be achieved through extending normal development work.

Three Steps

Three main steps are suggested in this respect: First is institution-building. Local organizations that serve as coping mechanisms can be identified and strengthened. A conscious effort can be made to increase their capacities and skills, thus enhancing their ability to deal with a crisis. The second activity is directed to increase the number of coping mechanisms within a community. The third activity is to broaden the contacts of local groups and to encourage whatever promotes cooperation among different elements or groups within the society.

The steps suggested above are pertinent. However, the fundamental issue remains how the suggested steps can be put into action? It is obvious that the steps reflect local measures, however, it is felt that the initial initiative should come from the state levels. At local levels various formal and informal organizations play an important role within the legitimate state framework, so state/government has a catalyst role in mobilizing, organizing and utilizing local level coping mechanisms through community participation.

- ? a. In your community, what informal organizations need strengthening to help reduce vulnerability?

key vulnerability reduction; coping mechanism.

SESSION 3: POPULATION RESPONSE TO DISASTER

Topic 3.1 : Different Dimensions of Population Response

The impact of natural disaster is also likely to differ depending upon the 'cultural and resource-context' of a particular country. There is a great value in looking at the disaster behavior and response from a cross-cultural perspective.

Types of Society

Social sciences have significantly helped in public understanding of the cultural variability of disaster behavior. This is an important insight to overcome the Eurocentric view which claimed 'civilization' to be central to 'developed' societies compared with so-called 'developing countries' which are mostly located in the southern half of the world. Certainly the understanding is important that there are many possible patterns of behavior and these have to be understood and valued within their own system of evaluation, collectively called culture. On the other hand, that understanding has often been pushed to the conclusion that there are no similarities, or perhaps no universals between and among societies. Given that view, it is impossible to generalize about behavior across societies.

Variation Across Societies

At the level of individual and family there is striking continuity in response in all societies. At the same time cultural differences are frequently revealed in terms of the organizational and the political structure. Some societies are rich with community organizations which can deal with disaster; others are not. Some societies assume a helplessness and dependence on the government; others do not. Some societies exhibit a diffuse and decentralized decision making system; others reflect a centralized and direct governance. For some societies, a disaster is a problem to be solved; for others, it is an opportunity to replace the problem solving structure in the society. In some societies, disaster response and recovery is an individual and private affair; in others, it is a corporate and governmental task.

The cultural and resource-context of a particular society in determining the different dimensions of population response are very important. Population response also differs whether a society is developed or underdeveloped, poor or rich. Behavior and response pattern is also dependent upon culture of a particular society. The nature and type of family and individual motivation is also a necessary consideration in determining the human dimension of disaster response.



- a. On October 1992, a powerful earthquake hit Cairo and the surrounding area. According to the Egyptian Gazette newspaper of 14 October 1992, "the bulk of the victims were killed not because of the power of the quake, but because of the stampede which hit people" The above quotation implies failure in earthquake awareness and a lack of proper evacuation behavior (methods).
 1. Give some suggestions how the death toll could have been kept to a minimum.
 2. What lessons can we learn from the Egyptian experience?
- b. Does society see nature as the cause of natural disasters? Analyze the situation in your society.
- c. Is there coordination between national and local levels to reduce vulnerabilities?
- d. Behavior and response pattern are dependent on cultural and resources content. True or false.



disaster behavior; population response; Egypt.

Topic 3.2 : Common Elements in Disaster Response

There are some common elements in disaster response across different countries. However, it is difficult to say to what extent these common elements can be brought within the structure of a typology. Eight dimensions of populations' response to disaster have increasingly been singled out as important for formulating a typology within the generic approach. This might help to develop a framework for cross-cultural perspective on disaster response.

Eight dimensions of population response are given below:

1. The relative proportion of the population involved.
2. The social centrality of the affected population.
3. The length of time the affected population is involved.
4. The rapidity of involvement by the population.
5. The predictability of involvement.
6. The unfamiliarity of the crisis.
7. The depth of the population's involvement
8. The recurrence of involvement

These eight characteristics of a population's response to disasters emphasize characteristics of the social occasion rather than of the physical agent.

The eight dimensions of population response can be used to highlight responses of different types of people in various parts of the world. It is therefore, important that disaster reduction should also take into consideration the above mentioned dimensions of population response.

- ?
- a. Which are the three most important elements of population response in your opinion?

key population response; disaster response.

Topic 3.3 : Major Modes of Human Response

People affected by natural disasters represent different groups, mentality and socio-economic backgrounds. As such their response to extreme events are different. Although it is difficult to generalize the different modes of human response, however, some attempts are made to bring these responses, within the purview of a general framework.

Four Modes of Human Response

Four major modes of human response have been identified. This indicates a general pattern. It is not sure to what extent this can be applied universally.

1. *Absorption:* Human beings and societies develop so as to be able to absorb significant extremes of natural events with little or no harmful effects. The mechanisms of absorption can be biological (physical adaptation to live with extreme circumstances), cultural (migration, nomadism) and incidental (technical or social intervention to reduce vulnerability incidental to some other function).
2. *Acceptance:* Individuals and societies bear their losses of life and property when they occur or sometimes share them with kith and kin; organized insurance or relief from community, national and international bodies helps bear the loss
3. *Reduction:* Consequences of extreme natural events are reduced by means of adjustments designed to either modify or prevent the natural event or to diminish the damage potential.
4. *Change:* A radical coping mode that involves fundamental change either in livelihood system, location or both.

The nature of these adjustments is, of course, correlated with the level of development of a society. In a relatively underdeveloped society the coping pattern is usually characterized by a high absorptive capacity. A number of adjustments are widely shared by fellow individuals. Adjustments are usually low in per capita cost and flexible in nature, mostly indigenous without much external assistance. Such a coping pattern requires cooperative action by a community or local groups. The self-adjustment strategies of people can be accelerated by participation of external agents if they can act as animators who can appreciate and arouse people's aspirations and capabilities and then coordinate their activities.

Human response to natural hazards shows a variety of patterns. Four modes that are identified above reflect some of these patterns. The nature and type of society and level of development are some important determinants of human response to hazards.

- ?
- What are the four major modes of human response? Do these four modes of response apply in your society?
 - Are these modes always constant or are they adjustable?
 - Suggest an example of major changes in such modes of response.

key population response; coping mechanism.

Topic 3.4 : Human Response Pattern

Evacuation is an adaptive response. If there are failures in evacuation response, it is usually due to organizational failures to provide guidance and resources rather than from the behavior of evacuees themselves.

Given a choice, non-evacuation is preferred to evacuation. When a warning message is perceived as valid and is socially confirmed, there still may be reluctance to leave. Individuals under stress typically consider which would be the least disruptive alternative in the situation. Warning messages are only one element that are either individually or collectively considered and may not be seen as the most important aspect of actual or potential disaster. The option of evacuation may arise before or after the disaster. In the case of a Tsunami pre-disaster evacuation may be necessary. In the case of earthquakes it may concern damaged and therefore more vulnerable buildings.

If at all possible, family members will wait in an endangered area until absent family members can come together and confirmatory behavior can occur. When they evacuate, families move as units. Thus, the start of an evacuation response may be stretched over a considerable period of time.

Recipients of a warning react in the context of other people to develop a definition of the situation. In developing the definition, messages received through the mass media have different degrees of credibility. Warnings delivered directly by people are more likely to be believed than when communicated by an impersonal medium. The more personal the means used, the more likely the delivered message will be person specific.

Warnings sent via the mass media are more likely to be believed if delivered by public officials rather than by private citizens. Mass media sources with high credibility before the disaster will continue to have credibility. In general, warnings via the mass media will be perceived as indicating to the people that something is wrong rather than mobilizing them to directly respond. However, the more sources from which messages about dangers are received, the more likely warnings will be believed.

In warning, context is more important than substance. If a radio station broadcasts a message which is supposed to be urgent and then returns to regular programming, it will be less believed than one that converts to all emergency messages. When messages are unclear, ambiguous, and easily interpreted as not involving immediate danger, no warning will be perceived.

The perceived proximity, severity and certainty of immediate personal danger is very important. Any message which communicates that there is extreme danger to self or to loved ones is usually effective. But it also must be perceived as relatively certain.

Equally important is warning confirmation. If in the ensuing interaction there is confirmation, the warning message will be believed. When others are seen as behaving as if they believe a warning to be valid, the message is likely to be believed.

Good disaster planning must take into account that warning messages do not impinge on isolated or solitary individuals. The warning is either confirmed or disconfirmed in the course of interaction with others. Reactions are only partially to warnings and therefore a response such as evacuation may or may not be a reaction to the warning message.

Functional and adaptive reactions are attempted by endangered groups. They attempt to do what appears to them to be the most appropriate for the situation. Effective disaster planning takes this into account.

Warning messages are one element used in developing a definition of the situation. Individuals perceive a message and then confirm it with others. Understanding that process is essential to evoke responses, such as evacuation.

- ?
- a. How important do you think that reasons for evacuating or not evacuating would be in your local area?
 - b. What would you propose in order to change certain patterns of behavior or strengthen others?
 - c. What social and capacity building aspects require investigation?

key population response; warning; evacuation;
Indonesia

Human response pattern: A case-study from Indonesia

The Indonesian anthropologist Laksono did fieldwork in a village which was under the constant threat of the volcano Merapi. The local authorities reacted to this threat by pressing the villagers to migrate from the area, but the villagers preferred to stay where they were and to adapt to the dangerous situation. At first glance, the option of the emigration officials seems to be 'objective' (which means realistic) and the villagers' point of view 'subjective' (or emotional and unrealistic). Laksono proved that both sides were partially right and partially wrong. During the 1969 eruption, three villagers stayed in their community and were killed. Eight years earlier, during the 1961 eruption, the village was not affected, but a great number of villagers perished during an enforced transmigration operation, due to disease and other environmental hazards. The evidence showed that the villagers' perception is not less realistic than the view of the government officials.

Topic 3.5 : Disaster Created Demands and the Community

Disaster planning needs to recognize that disaster agents create certain demands on the community system. But equally important are the demands which are created for the community system by the response itself.

Disaster agents, such as earthquakes, floods and typhoons, create demands for the community system to "solve." These agent generated demands include:

1. Warning
2. Pre-impact preparations
3. Search and rescue
4. Care of the injured and dead
5. Welfare demands
6. Restoration of essential services
7. Protection against continuing threat
8. Community order

But in responding to those demands, other demands are created for the community system to "solve." These response generated demands include:

1. Communication
2. Continuing assessment of the emergency situation
3. Mobilization and utilization of human and material resources
4. Coordination
5. Control and authority

Disaster problems created by the disaster agent are only one part of the problem to be faced. The response itself creates additional important demands on the community system.

- ? a Who do you think should be responsible for "coordination" of response to "welfare demands" in your community and why?

🔑 disaster agent; disaster planning-community level; community

Topic 3.6 : Social Networks for Disaster Response

There are certain similarities in disaster behavior in every type of society, but there are certain structural differences among societies which have importance for disaster response.

Research suggests that there are rather universal patterns of behavior at the individual level in emergencies. For example, panic flight is rare among disaster victims. Too, search and rescue tends to be done by "survivors," friends and neighbors rather than by formal "rescue" groups.

On the other hand, developing societies do not have as many specialized, single function groups as do developed societies so there are few organizations which deal in any specialized way with disaster.

That does not mean that new types of organizations have to be created to deal with disasters. Existing social networks can be used to accomplish disaster tasks. For example, warning systems can be constructed using traditional social networks which already communicate information. Existing social networks, such as extended families, kin groups, temple organization, local cooperative groups provide an existing base on which a disaster response can be built. This means that knowledge of the existing community prior to a disaster provide the best framework in effecting a response. Pre-disaster planning should also be devised to utilize these existing networks.

'Loose local networks are efficient social organizations to cope with disaster. Their organizational 'richness' should be used to carry out disaster tasks'.

- ? a. What existing social networks in your community can be used to accomplish disaster tasks?

🔑 disaster response-role of social networks; disaster behaviour; social networks.

Topic 3.7 : Importance of Social Characteristics for Disaster Planning

The social consequences of a particular disaster agent will not be uniform. It will depend on the nature of the social unit affected.

One major social difference is between the small remote village and the large urban center. In the village, a person is most of the time embedded in a close knit network of relatives and friends while in the urban context, the dense population ensures that relationships will be more superficial. This means that disaster needs might be different after a disaster.

This suggests that knowledge of the types of affected communities and their social characteristics are critical in planning any disaster response. Such knowledge is more likely to be accurate among those within the community, rather than those at provincial and national capitals.

Even developing societies differ significantly in their social composition. Knowledge of the social composition of disaster impacted areas is an essential element in disaster planning.

- ? a. What elements of the social network in your area are like a village, and which ones like those in a big city?

key social network(s); disaster planning-social characteristics.

SESSION 4: PEOPLE'S PERCEPTION OF DISASTERS

Topic 4.1 : Perception and Disasters

Perception of disaster determines how people view a particular disaster agent. However, perception does not indicate only an understanding of disaster-agent, it also includes people's views and attitudes regarding preventive programs, preparedness, warning, evacuation, rescue, relief-need, rehabilitation and over all response to a disaster.

Definition of Perception

Perception is people's thinking or idea about a particular event or issue. Perception is individual organization of stimuli in relating to an extreme event, as revealed in the language people use to describe the event, in their ability to describe past events and in their attitude to its possible future occurrence.

Role of Perception

An examination of perception allows one to determine how people view occurrences or the threat of extreme events, how attitudes are influenced, and how such views relate to options they consider in coping with hazard effects. People in all societies share a comprehension based on social history, values, dogmas, attitudes and world views. Indeed, perception of a particular disaster agent reveal that society's level of education and also attitude toward life in general. A change in perception towards awareness is sometimes the pre-condition for taking an active position towards the disaster agent. Reduction begins with understanding.

A definition and role of perception helps us to feel that an understanding of disaster agents is important. Ultimately it is this understanding that contributes to proper policy formulation.

- ?
- What are the socio-cultural factors that determine perception?
 - Are there cultural beliefs in your country that promote reduction action?
 - What cultural beliefs and common perceptions hinder reduction?

Key disaster perception.

Topic 4.2 : Warning, Memory and Response

Memory and past experience have significantly influenced people's response to warning. People's perception is also important. Past experience of people help in the formation of perception.

The relationship among warning, memory and response can primarily be considered from the individual point of view. When an individual receives a warning message the response might vary from immediate adaptive actions, confirmation actions to total denial. After receiving a disaster warning, individuals try to interpret the message in such a way that the threat conveyed by the message can be minimized. Misinterpretation of the warning and refusal to consider it, occurs very often. Human beings under stress initially tend to interpret new data in terms of the known and familiar. People will generally believe that they are not in immediate personal danger until perceptions indicate otherwise. A relationship exists between warning message and response. However, response is significantly affected by past experience and their recall of how they faced these types of warning and consequent disaster in the past. People's memory and recollection of activities have significant influence on the response pattern

The acceptance of disaster reducing options is closely linked with remembering these disasters in the community.

The kind of actions that are intended by warnings concern two types: warnings about potential dangers that warrant preventive measures and warnings about imminent dangers that warrant emergency action.

The first type is an attempt to mobilize for disaster reduction action, while the second concerns emergency measures ranging from alertness to evacuation.

People's responses to warning have a close linkage with memory. In this sense, response might be predictable.

- ?
- Why do you think that perception is central in the whole process of disaster reduction?
 - Identify local traditions, habits and cultural values that keep disaster memories alive?

Key disaster response-role of memory: warning

Topic 4.3 : People's Perception of Warning

The warning system of a particular country is designed with the people as the target and beneficiary. It is, therefore, important to understand how people perceive the message, transmit and respond to it. The emphasis here is on the perception of warning by the target population.

Nature and type of Warning Message

Warning messages must be used in a culturally sensitive way i.e. warnings must take into account who is receiving the message. There is a great difference between warnings issued by central government agencies through modern means of telecommunication and the warnings given by local leaders who know how to approach people in their resorts. Warning is far more than a linear transmission of a message from a warning source to the public visualized as an aggregate of individuals. In many cases it is found that there is no such thing as a warning message: there is instead what is perceived or believed by people (included portents and messages which are not always perceived by outsiders as 'rational'), the meaning they give to the message, which may or may not correspond to the warning message intended by those who issue it.

The way people interpret a message is also important. Peoples' perception, acceptance as well as rejection of warning messages is very much dependent on past experience and memory recollection of similar types of warning and occurrence of events.

Unlike all other forms of disaster warnings, the "time window" for earthquake prediction may be rather long- quite possibly 10 years or more. The most successful prediction and effective prevention measure may have been the Haicheng earthquake of February 1975. This was correctly interpreted as a foreshock sequence, which is known sometimes to precede a major shock. While the Chinese were successful in limiting considerably the number of casualties, there was huge destruction of buildings. The success was based on total mobilization and education as well as a good monitoring program.

Warning must be linked with knowledge by the receiver of what to do. This requires preparation prior to the emergency. When authorities tell the population that there is danger, without recommending particular protective actions, then only fear and panic can be expected.

Each warning must be understood to be linked with a particular response.

It is not the warning message itself that counts; rather it is the content and language of message and how these are transmitted to target population that are important. The perception and interpretation of message is important.



- a. What types of warnings are known and observed by the people in your area?



earthquake prediction; warning;
China

Topic 4.4 : Dissemination through Family Network

The role of the family in information dissemination is quite important. Family - both the immediate family and/or the kin group - is the most established institution in a society. In a disaster-prone society the family can play an important role in disseminating and sharing information.

Family's Role

Families play a part in the reception of messages about a disaster situation, and an important role in their confirmation. A large number of families get their initial information from relatives and friends. While only a small number obtain these messages directly from the authorities. In many cases, warnings are treated with some scepticism. Immediate family members and kin play an important role in confirming the initial advice.

These sources are especially important in encouraging families to evacuate. In other words, messages from friends and relatives are more influential in getting families to act than are messages from mass media sources.

The family-both the immediate family and/or the kin group - is an extremely important group in disaster planning, since to the extent that the family can handle the problem, other community resources need not be allocated.

- ?
- a. Families and friends are important sources for information dissemination during disaster. Explain how the family network would operate in your local area?



family; information dissemination, warning.

Topic 4.5 : Effective warning messages

There are certain characteristics of effective warning messages.

Warning messages should be culturally relevant, specific, accurate, certain about the location and the character of the risk.

They should provide guidance about what action should be taken and how much time there is to accomplish such action. Changes in these items over time should be explained.

The more communications channels used to reach the public, the better, because different people are part of different communications networks. (Thus, single "official" channels are inadequate.)

Warnings should be systematically repeated often in a predictable manner.

Warnings should be labelled from a set of sources, including a mix of scientists, officials and local leaders. (Accurate information from unpopular government sources is likely to be ineffective.)

The process by which warning messages should be developed and transmitted should be part of the disaster preparedness process.

Warning messages have specific attributes which identify risks. Such messages are likely believed when they become part of the "normal" communication channels with the community.



- a. To make the warnings more easily believed what authority in your community would have to be involved?



warning, disaster preparedness.

